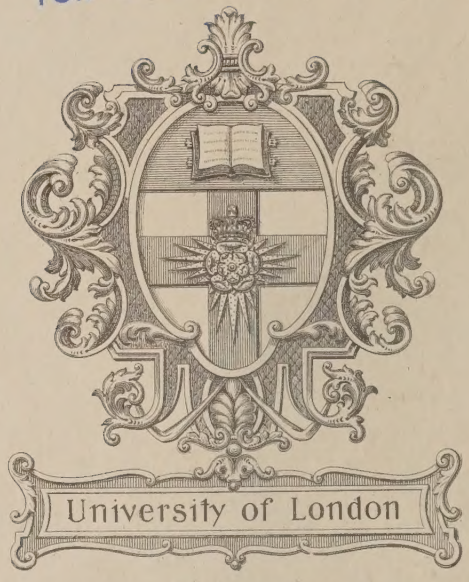
PARL. PAPERS
FOR REFERENCE ONLY.



REPORTS

FROM

COMMITTEES:

SIXTEEN VOLUMES.

—*(12.)*—

ROYAL MINT.

Session

31 *January*——17 *July* 1837.

VOL. XVI.

1837.

REPORTS FROM COMMITTEES:

1837.

SIXTEEN VOLUMES:—CONTENTS OF THE

TWELFTH VOLUME.

N.B.—*THE* Figures *at the* beginning of the line, *correspond with the* N° *at the foot of each* Report; *and the* Figures *at the* end of the line, *refer to the* MS. Paging *of the Volumes arranged for The House of Commons.*

ROYAL MINT:

465. REPORT from Select Committee on the Royal Mint; with Minutes of Evidence, Appendix and Index - - - - - p. 1

THE REPORT - - - - - - - - - - - p. 1

MINUTES OF EVIDENCE - - - - - - - 5

APPENDIX - - - - - - - - - - - 195

INDEX - - - - - - - - - - - - 447

REPORT

FROM THE

SELECT COMMITTEE

ON

THE ROYAL MINT;

TOGETHER WITH THE

MINUTES OF EVIDENCE,

APPENDIX AND INDEX.

Ordered, by The House of Commons, *to be Printed,*
30 *June* 1837.

465.

Martis, 28° *die Februarii*, 1837.

Ordered, THAT a Select Committee be appointed to inquire into the Establishment of the Royal Mint, and the system under which the Fabrication and Delivery of the Coin are conducted.

And a Committee was appointed of,—

Mr. Labouchere.
Mr. Goulburn.
Mr. Hume.
Mr. Herries.
Mr. Warburton.
Lord Viscount Lowther.
Sir Charles Lemon.
Mr. Thomas Baring.
Mr. Pattison.
The Earl of Lincoln.
Mr. Ridley Colborne.
Mr. Wall.
Mr. Clay.
Sir Thomas Fremantle.
Mr. John Parker.

Ordered, THAT the Committee have power to send for Persons, Papers and Records.

Ordered, THAT Five be the Quorum of the Committee.

Lunæ, 12° *die Junii*, 1837.

Ordered, THAT the Committee have power to adjourn from Place to Place.

Veneris, 30° *die Junii*, 1837.

Ordered, THAT the Committee have power to report their Opinion, together with the Minutes of Evidence.

PROCEEDINGS OF THE COMMITTEE.

Mercurii, 8° *die Julii*, 1837.

MEMBERS PRESENT:

Mr. Labouchere.
Lord Lowther.
Mr. Thomas Baring.
Mr. John Parker.
Mr. Ridley Colborne.
Mr Clay.
The Earl of Lincoln.
Mr. Warburton.

MR. LABOUCHERE called to the Chair.

Adjourned.

THE REPORT - - - - - - - - - - - - p. iii
MINUTES OF EVIDENCE - - - - - - - - - p. 1
APPENDIX - - - - - - - - - - - - p. 191
INDEX - - - - - - - - - - - - - p. 249
PLANS.

REPORT.

THE SELECT COMMITTEE appointed to inquire into the Establishment of the ROYAL MINT; and the System under which the Fabrication and Delivery of the Coin are conducted; and who were empowered to report the MINUTES OF EVIDENCE taken before them, together with their Observations thereupon, to The House;——HAVE examined the Matters to them referred, and have agreed to the following REPORT.

IT will be seen that Your Committee have examined minutely into all the Branches of the service of the Mint, with the exception of the Solicitor's and Engraving Departments, which the expected approach of the termination of the Session has precluded them from investigating, and have likewise received some valuable Evidence from parties unconnected with the Establishment.

Under these circumstances Your Committee think it probable that the next House of Commons will deem it expedient, by the appointment of a Select Committee, to continue and conclude this inquiry.

30 *June* 1837.

LIST OF WITNESSES.

Martis, 18° *die Aprilis*, 1837.
Mr. James William Morrison - - - - - - - p. 1

Veneris, 21° *die Aprilis*, 1837.
Mr. James William Morrison - - - - - - - p. 19
Mr. Henry Bingley - - - - - - - - - p. 21

Martis, 25° *die Aprilis*, 1837.
Mr. William Henry Barton - - - - - - - - p. 30

Veneris, 28° *die Aprilis*, 1837.
Mr. Henry Bingley - - - - - - - - - p. 43
Mr. John Malebysse Beckwith - - - - - - - p. 48

Martis, 2° *die Maii*, 1837.
Mr. William Henry Barton - - - - - - - p. 53
Mr. Thomas Pearson Croasdaile - - - - - - p. 55
Mr. William Thomas Brande - - - - - - - p. 57

Jovis, 4° *die Maii*, 1837.
Mr. John Field - - - - - - - - - p. 63
Mr. John Buckham - - - - - - - - - p. 66
Mr. William Busson - - - - - - - - p. 72
Mr. William Hampson Morrison - - - - - - p. 75

Martis, 9° *die Maii*, 1837.
Mr. G. F. Mathison - - - - - - - - p. 78

Jovis, 19° *die Maii*, 1837.
Mr. John Pearson - - - - - - - - - } p. 95
Mr. James William Morrison - - - - - - - }
Mr. G. F. Mathison - - - - - - - - }
Mr. Henry Bingley - - - - - - - - } p. 97
Mr. William Henry Barton - - - - - - - }
Mr. James William Morrison - - - - - - - }

Martis, 23° *die Maii*, 1837.
Mr. G. F. Mathison - - - - - - - - p. 109

Martis, 30° *die Maii*, 1837.
Mr. Jasper Atkinson - - - - - - - - p. 118

Jovis, 1° *die Junii*, 1837.
Mr. Jasper Atkinson - - - - - - - - p. 134
Mr. William Henry Barton - - - - - - - p. 142
Mr. J. W. Morrison - - - - - - - - p. 142

Martis, 6° *die Junii*, 1837.
The Committee met at the Mint - - - - - - p. 146

Martis, 13° *die Junii*, 1837.
The Committee met at the Mint - - - - - - p. 149

Jovis, 15° *die Junii*, 1837.
Mr. James Sharp - - - - - - - - - }
Mr. George Anthony Sharp - - - - - - - - }
Mr. G. F. Mathison - - - - - - - - } p. 151
Mr. J. W. Morrison - - - - - - - - }
Mr. Jasper Atkinson - - - - - - - - }
Mr. Percival Nott Johnson - - - - - - - p. 161

Martis, 27° *die Junii*, 1837.
Mr. Matthew Marshall - - - - - - - - } p. 165
Mr. Haggard - - - - - - - - - - }
Mr. Henry Bingley - - - - - - - - - } p. 177
Mr. Morrison - - - - - - - - - - }

Jovis, 29° *die Junii*, 1837.
Mr. Henry Bingley - - - - - - - - - } p. 182
Mr. Barton - - - - - - - - - - }

MINUTES OF EVIDENCE.

Martis, 18° *die Aprilis*, 1837.

MEMBERS PRESENT.

Mr. Clay.
Mr. Ridley Colborne.
Mr. Herries.
Mr. Hume.
The Right Hon. Henry Labouchere.
Sir Charles Lemon.
Lord Viscount Lowther.
Mr. John Parker.
Mr. Pattison.
Mr. Wall.
Mr. Warburton.

THE RIGHT HON. HENRY LABOUCHERE, IN THE CHAIR.

Mr. *James William Morrison*, called in; and Examined.

Mr. *J. W. Morrison*
18 April 1837

1. *Chairman.*] WHAT situation do you hold as connected with the Royal Mint?—I am Deputy-Master of the Mint.

2. How long have you held that situation?—I have been deputy-master upwards of 30 years, 34 years.

3. Were you connected with the Royal Mint before you were deputy-master?—Yes, for about 10 years.

4. In what capacity?—As clerk and under melter. The deputy-master, at that time, held the contract for melting.

5. And you acted under him?—Yes; I was called at that time the second clerk to the master.

6. In point of fact you acted under the deputy-master?—I was in the same situation as the present second clerk and probation melter.

7. Have the goodness to describe to the Committee generally the system under which the affairs of the Mint are conducted?—The system consists of the following heads or branches:

The Government.
The Check Department.
The Operative Department.
The Law Department, and
Clerks, &c.

8. With regard to the first branch of the establishment which you have mentioned, namely, the government of the Mint, how is that composed?—Of the master, deputy-master, and a board of the principal officers of the Mint.

9. Mr. *Warburton.*] Whom do you include as the principal officers?—The officers that compose the board, besides the master, are the deputy-master, comptroller, the King's assay master, the King's clerk, and the superintendent of the machinery.

10. Five besides the master?—Yes, the deputy-master, comptroller, the King' assay master, the King's clerk, and the superintendent of machinery.

11. What are the functions of the master of the Mint?—The master is the chief of the establishment, the presiding officer over all the departments. All appointments are generally through him, though they rest a great deal with the Treasury; yet I should think they are generally submitted to them. He enters into an indenture with the King to make the monies, according to certain weights and fineness,

Mr. *J. W. Morrison.*

18 April 1837.

described in the indenture. He gives heavy security for this, 20,000 *l.*; he receives all money for the maintenance of the Mint, charges for the coinage and the purchase of bullion, and he makes up a yearly account, which is laid before the auditors, signed and sworn, and certified by substantial vouchers, which are signed by the officers of the board. The master enters into an agreement with the moneyers and melters for the performance of the work and the operative part. It is a contract between him and them; it is called an agreement, though you may call it a contract. The moneyers contract to make the monies for so much per pound weight, the melter in the same way, and the refiner in the same way. Those are the chief duties of the master. He has also to look after the impressions upon the coins, and to submit proper designs to the King for impressions to be put upon the coin.

12. What is the salary of this officer?—The master has now 2,000 *l.* a year; he had 3,000 *l.* by Act of Parliament in the 39th of Geo. 3; but it has lately been reduced, when Lord Auckland was master.

13. Has he any perquisites of any kind?—None whatever.

14. What are the duties of the deputy-master?—The deputy-master in fact performs all the executive duties of the master; he is in custody, with other officers, of the bullion and coin; he is in receipt with them of all bullion brought to the Mint for coinage, and in delivering the coin; in short, everything of that description. He also receives all money, by a power from the master, for the expense and charge of the establishment, and makes all payments, draws up the accounts for the master, and in fact does all the duties described in the indenture to be done by the master as executive duties. He makes all purchases of bullion. He has an office which is called the Receiver's Office, pursuant to the Act 39th year of Geo. 3. The master formerly received certain fees upon coinage, and not a salary; it was then altered, and he received 3,000 *l.* a year instead of the fees, and those fees that went to the master were collected and applied to the salary, and the surplus, whatever it might be, was paid into the Exchequer.

15. That duty, I believe, will cease when the Bill now before Parliament is passed?—If that Bill is passed, and the 5th of April remains the date which in one of the clauses is put there, then it has already ceased, and the accounts have been delivered up to this time. The deputy-master gives security to the amount of 5,000 *l.* for money which he receives as deputy-master, and he gives security also for the receiver in 1,000 *l.*

16. What is the salary of the deputy-master?—It is 800 *l.* a year.

17. Does he receive any fees or emolument of any kind?—I have an allowance, called gratuity, for length of service. It would not be given generally to deputy-masters; but having been so long in the service, I have an extra allowance of about 120 *l.* a year. I receive also a small fee upon the Sheffield and Birmingham diets: it is called by the Act of Parliament, the diet of silver and gold; in fact, it is a company of wardens and assay-masters, established in certain towns in the country, for preserving the purity of the wrought plate. They send up, under the Act of Parliament, portions of the plate which they take off, to be assayed by the King's assayer as a check upon their assayer; these parcels are put under my custody until they are properly brought to trial, and for that I receive three guineas from Birmingham, and three guineas from Sheffield.

18. That is the only fee that you have attached to your office?—That is the only fee now attached to my office.

19. Mr. *Hume.*] On what authority was that received?—It is by Act of Parliament; I do not recollect, at this moment, the particular Act; it was in the reign of Geo. 3.

20. *Chairman.*] I believe the Sheffield and Birmingham companies are the only two that apply to the Royal Mint for this purpose?—They are the only two that come under the assayer's survey at the Mint. There are several other offices at Glasgow, Edinburgh, Bristol, and other towns. I do not know how many altogether; but they are not subject to this check, which is only peculiar to Birmingham and Sheffield.

21. Do you know whether the application at the Mint is compulsory or voluntary?—I understand it originated a long time ago. I heard Mr. Boulton say that it originated a good deal with him and other persons, in order to keep themselves honest, that they might not have a fraudulent assay master; and an Act of Parliament was brought in at that time to place it under the Mint.

22. I suppose

22. I suppose it was owing to the circumstance of those towns being by far the greatest manufacturers of these articles?—It was the intention to bring other towns under the same sort of surveillance.

23. Mr. *Hume.*] You have stated that there are other assay towns besides Sheffield and Birmingham in the country?—Yes.

24. These are the only two over which you have any check?—Yes.

25. Can you state what is the difference in the establishment of other assay towns, whether they are appointed by any special Act, and wherein the difference consists?—Of course I am a perfect stranger to the matter; they have their own laws and regulations, unconnected with the Mint.

26. Mr. *Herries.*] Do you communicate with the Glasgow company, for instance?—I do not.

27. Mr. *Hume.*] Under what authority is it; by patent, grant, or Act of Parliament?—There was an Act of Parliament brought in last year for the better preservation of the standard plate.

27*. *Chairman.*] That was in Scotland.—

28. Mr. *Ridley Colborne.*] They are to be precisely the same standard as the Sheffield and Birmingham?—They ought to be.

29. I ask whether it is so or not?—That I cannot tell; Sheffield and Birmingham are always sufficient in fineness.

30. They have been found to be so, upon trial at the Mint?—Yes, sufficient in fineness; a little better than standard.

31. In point of fact, upon trial at the Mint, it has been proved that manufactured plate from Sheffield and Birmingham is superior in point of fineness to the standard?—Yes, in a small degree.

32. Mr. *Herries.*] You have adverted to the office of King's assay-master; what are his duties?—He is the check upon all monies, which are issued to the public, in gold and silver.

33. Mr. *Warburton.*] Do you mean for weight and purity?—Yes, the weight and purity; he tries the bars, which are melted before they are put into the process of coinage; if he finds those bars are standard, they are delivered to the moneyers for their operation.

34. Mr. *Hume.*] You say he tries them before they are delivered to the moneyers?—Yes.

35. What does he do if the metal is not correct?—It is stopped and ordered to be re-melted.

36. He makes a report?—Yes; the metal, which is cast into the proper description of bars, is delivered to the moneyers, and turned into coin.

37. You say he makes a report; to whom does he make the report?—He makes the report to the comptroller and other officers, whom we call the principal officers.

38. Mr. *Warburton.*] Whom do you mean by principal officers?—The principal officers we consider to be the comptroller, and the King's clerk, and the deputy-master; the report is delivered to them.

39. Mr. *Hume.*] He makes a report to the deputy-master and comptroller?—And the King's clerk.

40. What do they now?—They immediately send that report to the surveyor of melting, an officer who has the metal at that time in his custody.

41. *Chairman.*] Now, are the whole of the duties of the King's assayer those you have described?—Those are the whole duties in that particular point of the melting; afterwards there are others.

42. Have the goodness to state to the Committee what are the other duties of the King's assayer?—Those duties will be shown in the process, when it shall be come to. Whether you would like to have the whole duties of the King's assayer from me, or whether the King's assayer should attend, and you would take the duties from himself, I do not know; but I will briefly tell you that he is the check upon the weight and fineness of all monies. After the monies are coined they are brought into the Mint-office, and certain officers attend to a process which is called the pix. The nature of this process is, that out of every journeyweight of 15 pounds in gold and 60 pounds in silver, a pound weight is told. We know what a pound weight should tell out; the King's assayer proves it; he declares what the exact weight is. A remedy is allowed to the master if there is too much or too little, one way or the other, and he declares what the difference is, which is taken down by the other officers attending, or the clerks. It is impossible

Mr. *J. W. Morrison.*

18 April 1837.

to make the monies mathematically exact; they cannot be the exact weight; they may be two or three grains too heavy or too light; that is recorded in what is called the pix books. The officers go through the whole of the delivery; suppose it amounts to 100 bags, they examine every bag, and the comptroller takes from those bags, given to him promiscuously, two pieces, one for the King's assayer, and one for the public trial of the pix.

43. You are taking a pound weight?—Yes.

44. Do you mean a number of pieces sufficient to constitute a pound?—Yes; we cannot do it now with sovereigns, but we used to take 44 ½ guineas, which fell out an exact pound; they then took 44 ½ guineas and put them into a scale; I merely mention guineas more easily to describe the process; 44 ½ guineas made the pound.

45. You have stated that there are other officers of the board; the King's assayer, the comptroller, the King's clerk, and the superintendent of the machinery?—Yes.

46. Now have the goodness to state in what manner they are brought into action as the governing body of the Mint?—They meet every Wednesday; it is so ordered in the indenture; they then consider the business of the office, and what will be the proper days for appointing the importations and the pix I have mentioned, and for the delivery of the coin; and they settle those days. They also pass requisitions for expenses; they consider those, and pass them, by signing their initials to an order; also the solicitor attends upon those days, and lays before them cases for prosecution, with the evidence and details of the cases; and if upon his recommendation they think the law will be sufficient to justify them, they order prosecutions to take place; bills and accounts are brought before them occasionally and passed; in short, everything that concerns the office; and they refer to the master from time to time upon anything that may be necessary.

47. Mr. *Wall.*] Does the master attend himself?—Occasionally.

48. Lord Viscount *Lowther.*] Are the minutes of this board submitted to the master?—The officers who form the board generally have other duties, so that our minutes are very short.

49. Mr. *Warburton.*] But are minutes taken of the proceedings of this board?—Minutes are taken to show that the board have met, and that they have passed requisitions, accounts, and so on; and occasionally, if anything peculiar is wanted which requires a minute being taken, that minute and all letters and the day-book are laid before them.

50. *Chairman.*] Are regular minutes kept of transactions of importance?—Yes; we do not keep minutes of common or routine transactions, for this reason, the officers composing the board have various and important duties to perform in the coinage. When Lord Maryborough was master of the Mint, he relieved the board from making returns of the transactions to the master. He desired them to attend to their respective duties in the coinage, which were of more consequence; the common directions are therefore generally given verbally. In saying this, I mean to say that any books brought before the Committee will disappoint them, inasmuch as those minutes will be found not to be as full as at other boards.

51. Mr. *Herries.*] Still you record particular transactions?—Yes.

52. Things ordered of tradesmen, those were inserted?—No, not in detail.

53. Not in detail; but they were recorded as having occurred?—Yes.

54. Mr. *Warburton.*] Do you think there is any order by this board, at any one of its meetings, of which no record is entered in the minutes of the board?—Possibly there may be.

55. Mr. *Herries.*] What do you mean, an order given by the board as a collective body, or by the deputy-master, under the authority of the master?—Under the authority of the master.

56. Mr. *Hume.*] Would a minute show to the master when he next visited the Mint, what had taken place at the board when he was not present?—Not so fully; and I have mentioned the reason why they were not so fully. When Lord Clancarty was master of the Mint, we used to send regular monthly accounts to him of what had been done when he was absent.

57. Mr. *Warburton.*] What year was that?—That was about 1813 or 1814.

58. What has happened since that period?—In 1826 the great re-coinage of silver took place, and the board of officers were relieved by Lord Maryborough from drawing up such reports for him, so that the books do not show those reports of late years.

59. Mr. *Hume.*] Did Lord Maryborough make that alteration by a minute to the board, or verbally?—Verbally.

60. *Chairman.*] Is the business transaction at the board generally of a mere routine nature?—Just so.

61. Suppose any question that is not of a routine nature, but which is of consequence, to be settled at the Mint, how is that generally settled?—A minute is made.

62. But is it settled at the board or by communication with the master?—Sometimes with the board, when the board think they have the power; and when they think they require the master, they submit it to him.

63. Mr. *Herries.*] Will that appear in the minutes?—Yes. I consider the chief business of the board to be for the expenditure, mere contingent things wanted in the Mint; requisitions are brought before the board, such as coals, charcoal, water-silver, &c., and such things as are wanted for the works, or repairs of buildings.

64. *Chairman.*] Have you any requisition of that sort passed without the signature of the board officers?—We always sign the requisitions.

65. Is any record kept of those requisitions?—The requisitions themselves; it is a duplicate on printed paper; it is signed with the initials of the officers; one side is given to the clerk of the works, who has the management of those things; and we keep the other side. I believe I have the printed papers.

66. Mr. *Hume.*] Is a register kept of the indents upon those days?—No; the papers speak for themselves; they are the only registers.

67. *Chairman.*] You speak of repairs to the buildings as being ordered by the officers of the board?—Yes; such as locks, bells, repairs to the water-closets.

68. Have not those duties been transferred to the Board of Works?—It is now transferred to the Board of Works, but only within this month.

69. Who keeps the duplicate tickets of the indents?—They are kept in the offices of the board room, by the clerk, who is an assistant to me, where all our letters and official papers are registered.

70. But you make those indents without reporting them to the master?—Yes.

71. Then in what way does the master interfere with you in the ordinary duties on those board days?—He does not interfere at all, except upon cases of great importance. When we think there is a case of great importance, upon which we are not authorized ourselves to act, we submit it to the master.

72. State one of those cases, so that we may be able to judge what they are?—I will take the operation of melting. We had some French gold brought to us, which would not adapt to our mode of calculating, that is, if we made up the report according to our calculation, it would turn out too fine. The French (technically) report the fineness differently, viz. by millièmes, and we report by quarter carat grains. Now that we have reduced it to an eighth, we can make up our pots so as to exactly correspond with the French. Upon an occasion of that sort, finding we could not adjust the metal in the melting-pots by adding the alloy that was added by our calculation, the master of the Mint, Lord Maryborough, interfered, and ordered the King's assay-master to allow so much more alloy to be put into the pot, and the surveyor of meltings to keep an account of it, and the amount to be carried to the benefit of the public.

73. Mr. *Hume.*] Is not that done upon every operation?—It is not necessary upon every operation; it is not necessary now.

74. Lord *Lowther.*] Are prosecutions entered into without the sanction of the master?—The sanction of the board; the deputy-master is supposed to represent the master at the board.

75. But it is done without the sanction of the master?—Yes, without the sanction of the master, without the personal sanction of the master; because at the board the deputy represents the master.

76. *Chairman.*] Does the master ever attend at the board, and take his part of the business as a member of that board?—Yes; occasionally. It will be seen by the minutes of late years, that Mr. Herries, Lord Auckland, and subsequent masters, and the present master, Mr. Labouchere, attended. There are some minutes I should like to select; to take all our books would be an onerous proceeding; there are some minutes which were ordered immediately under the superintendence of the board.

77. In the case of communications between the Mint and the Treasury, are those communications conducted by the board as a board, or by the master and

Mr. *J. W. Morrison.*

18 April 1837.

deputy-master?—By the master and deputy-master principally; it would be irregular for the deputy-master, or the master himself, to give an order for these expenses without cognizance or some control; the deputy-master is so tied that he can go into no expenditure without the concurrence of the board; I believe that is the chief use of the board.

78. Do you know whether the officers of the Mint are recognised as a board by the Treasury?—The indenture will explain that.

79. Mr. *Hume.*] In what way do you consider yourselves placed by the indenture?—The board is constituted under the indenture; if you will allow me, I will refer to it; it is mentioned in the indenture in this way: "And our Sovereign Lord the King, for the better management of the affairs of the Mint, and for ordering, examining and avouching the amounts and expenditure of the Mint, doth hereby ordain that the master or worker or his deputy, the King's assayer, the comptroller, the King's clerk, and the superintendent of machinery, shall form a board, of whom any three of the said officers, the master or worker and his deputy being one, shall be competent to act, and the said board shall meet every Wednesday, or on such other days as they shall appoint, and shall determine the hours of attendance of the several officers for the receipt of all such bullion as shall be brought into the Mint, and for delivery out of the coined monies, and all other business of the Mint, and shall give directions in all matters wherein authority is given to them by these presents; and the said board, as often as need shall require, shall and may take up as many engravers, to grave irons, at His Majesty's price, as also as many smiths, workmen and labourers, and other necessaries, to and for the making the said irons and monies aforesaid, and the doing of all manner of business within the Mint, as to the said board shall seem needful, in which taking of such engravers, smiths, workmen and labourers, and other necessaries, our Sovereign Lord the King doth will and command by this indenture all mayors, sheriffs and other officers, that they be assisting, aiding, helping and fortifying as to right doth belong."

80. *Chairman.*] Do you think it desirable that a more full and accurate record of the proceedings of the board should be kept?—I think it would be desirable; but then there must be some additional officer or clerk to the board, to make the minutes.

81. Would it be difficult to impose upon one of the officers the duty of keeping the records?—Mr. Groasdale is the clerk, but he has other important duties; and frequently, when we meet at one o'clock, it is necessary to go down stairs to deliver the coin, or other business.

82. Lord *Lowther.*] You have no secretary to the establishment?—We have no secretary.

83. Mr. *Hume.*] Can you say whether by the indenture the board is directed to keep a minute of all transactions and duties intrusted to them?—It does not appear that they are instructed to keep minutes; the indenture only gives them the power to pass accounts, &c.

84. *Chairman.*] But, in point of fact, has any important transaction taken place at the Mint of late years of which there will not be a record found in the minutes?—I should think not. We consider all the ordinary duties and things likely to be wanted to be brought in the routine of business; but supposing anything was wanted which was not in the proper routine, and we had a doubt about it, most likely we should make a minute.

85. Mr. *Herries.*] Supposing there was to be any new regulation, would that be required?—Yes.

86. *Chairman.*] In addition to the duties which you have stated to belong to the office of deputy-master of the Mint, have not some duties been lately added, relating to the purchase of bullion for the service of the Commissariat Department?—The dollars used to be purchased by Mr. Sargent, of the Treasury Commissariat Department; and when the alteration took place in the Treasury, it was said there was no provision made for any person to purchase these dollars, whether dollars or whatever they might be, but dollars were mentioned at that time; and it was thought that the deputy-master of the Mint, from his proximity to the Bullion-office, and his acquaintance with other things, was the proper person to transact the business; the consequence was, that in February 1835 an imprest was made from the Treasury, from the Army Pay-office, of 20,000 *l.*, and dollars were purchased by me, and it has gone on to such an extent now, that I suppose I have expended perhaps 700,000 *l.* in the purchase of dollars, bullion and

and coin of one sort and another. The coin which has been made being sold, and the money coming back in cash, that cash is turned over and over so as to be applicable to the purchase of bullion. The sum which has been laid out by the Commissariat Department does not amount to more than about 420,000 *l.* I am not speaking exactly; I have not my accounts with me; but accounts have been rendered, which the Committee, if they choose, can call for.

87. This business has been transacted by yourself, in communication with the Treasury?—I do not ask the officers of the Mint board to authorize me to purchase; but I cannot draw a sum for the payment without the board being privy to the draft. If I had 20,000 *l.* to purchase bullion, that draft must be countersigned by the comptroller or the King's clerk.

88. Mr. *Herries.*] You have found these regulations facilitate the public service?—Yes; I thought it was my duty, upon occasions of that sort, because I might pay too high a price for the bullion (not being acquainted, nor having practice in it), to request the Treasury to allow me to employ a respectable broker, and the broker who has been employed is the broker who is always employed by the Bank, Mr. Mocatta, and when I have wanted any bullion, I have gone to him and desired him to get me bullion at the market price. I have not waited for any speculation as to whether it might be higher or lower, or anything of that sort, but I have bought the bullion when it was wanted.

89. Mr. *Clay.*] Not for the purpose of coining, but for the convenience of the Commissariat?—For the purpose of public coining and for the Commissariat.

90. Not wholly for coining?—No; occasionally dollars have been bought and sent out for the service of the military chests abroad; old coin has been bought, and guineas were bought.

91. *Chairman.*] Your duties with regard to the Commissariat Department are perfectly distinct from your duties with regard to the Mint, are they not?—They are not mentioned in my duties; they are duties which have been imposed upon me as a public officer.

92. Mr. *Clay.*] What year was it in that you first received the imprest?—The first imprest that I had was in February 1835, when Lord Ashburton was master of the Mint. I made a minute, I think, of all the proceedings, which I believe I entered in the books. If the Committee want to see those minutes, it is a minute of one of those extraordinary circumstances which will be found in the books.

93. Mr. *Hume.*] What was the extent of that imprest, and for what purpose was it?—It was for purchasing Spanish dollars for the use of the Commissariat; those dollars were deposited in the Mint, in the strongholds, to be ready whenever the Commissariat officer of the Treasury should require them. When I received an order from the Treasury, we packed them up in boxes, and they were consigned to whatever place they were destined, whether Malta, Gibraltar, or any other military station.

94. Did you make the purchase?—I made the purchase.

95. From whom?—I purchased them through Mr. Mocatta, at the bullion-office at the Bank.

96. Did you receive the money, or did you receive an order to purchase, and give an order upon the Treasury for the money?—The money was received by me at that time for the master; it was a warrant to the Paymaster-general to pay to the master of the Mint 20,000 *l.*

97. Have you rendered an account of that money, so received, to the Treasury?—I rendered accounts, from time to time, to the Treasury, and accounts are also rendered in the master's account to the Audit-office in the year 1835.

98. Mr. *Herries.*] Are there any accounts for separate agency included in the account which you rendered to the Audit-office, which was examined by auditors?—You will see that every imprest is brought into account in the audit account, and the purchase.

99. Then, in point of fact, it enters into the account of the master of the Mint?—It enters into the account of the master of the Mint.

100. I thought you were specially appointed to be the agent; then you were only acting as the representative of the master?—Yes.

101. Mr. *Warburton.*] You only acted as an officer of the Mint?—Only as an officer of the Mint.

102. *Chairman.*] You stated that the next department of the Mint was the

Mr. *J. W. Morrison.*

18 April 1837.

check department; how is that composed?—It is composed of the comptroller, King's assay-master, King's clerk, and clerk of the papers, surveyor of the melting, surveyor of the money presses, weigher and teller, and clerk of the irons.

103. What are the general duties of check officers?—They are to inspect and oversee all the processes of coinage and accounts, and the business of the Mint generally.

104. Do they attend to the receipt, deliverance and custody of the bullion?—They attend to the receipt of the bullion, to the delivery of the coin and the custody. Not all of them; they have individual duties; some for one thing, and some for another.

105. They keep books and accounts?—They keep books and accounts.

106. Who is the officer whom you consider has the main check upon the accounts of the office?—The comptroller.

107. Have the goodness to tell us what are the duties of that office?—The duties are: he keeps an account of all the bullion which is received for coinage; he attends to the calculating for the standard; enters the fineness and the alloy, and everything of that sort, in his books; he checks the pot-books, containing the alloy of the fine metal for making up the actual standard of the pot of metal before it is melted; he examines all the cash accounts; he makes controlment rolls, describing the quantity of the money that is coined, which he attests.

108. Upon what system are the cash accounts kept?—The cash accounts are: if any monies are issued for the master of the Mint, the deputy-master carries those monies, and places them to the master's account at the Bank. The master authorizes and empowers the deputy-master, the comptroller, and King's clerk in the absence of the comptroller, to draw, so that no cheque can be drawn from the account without its being countersigned by one officer; the comptroller is the chief one, and he generally signs the draft.

109. Has any alteration in the mode of keeping the cash-books been lately introduced at the Mint?—In or about 1830 a plan was introduced for the security of the money; but I do not think any alteration has been made since that time in the audit account. An alteration has been made in regard to the keeping of the Bank books. There are two accounts kept at the Bank, Exchequer credits and the cash account; that alteration has been made since 1830. I forget exactly the period, but it is since the alteration in the Exchequer.

110. What are the duties of the King's assayer as regards the check department?—I have mentioned already that he reports upon all the fineness; he checks the fineness.

111. What are the duties of the weigher and teller as regards the check department?—Every parcel that is brought to the Mint for coinage is weighed by the weigher and teller of the Mint, in the presence of the owner of the bullion, and in the presence of certain check officers of the Mint. He determines by his scale what is the weight. Suppose the person who brings the ingot, says, "this is the weight of the ingot that I have got upon my paper;" that may be, but here is the weight by our scale, which is adjusted in the completest manner; this is the weight; he reports, and he abides by it; he is the check between the master and the public, and he is the check also in all weighings that take place between the moneyers and the melters that are in the office, and between the officers themselves.

112. You mean between the master and the importers?—Yes.

113. Mr. *Warburton.*] What other officers are present together with the weigher and teller on weighing the metal?—The comptroller, the King's clerk, are the principal check officers. I ought to be there, but as I cannot be there, I am there through my clerk.

114. Mr. *Herries.*] What is the duty of the surveyor of melting as regards the check department?—He sees that the ingots and the alloys as set down in the pot-book, which has been examined by the comptroller and the check clerk, are put into the pot, and he takes care that these are the right ingots which he examines, according to their description in the book, and the quantity of alloy; he weighs the alloy; he enters the ingots and alloy in a book; the melter cannot put in more or less alloy than that which he is the check upon; he then, when the metal is melted, takes one or more pieces from the pot, as it is pouring out, or from the bars as it is poured; he rolls it up in paper, and describes the pot it belongs to, for the

assay-

Mr. *J. W. Morrison.*

18 April 1837.

assay-master, to be tried by him. In the mean time, the produce of the melting is locked up until the report is made by the King's assay-master; he keeps an account, and the books are a record of all these proceedings.

115. Mr. *Hume.*] What is set down in the pot-book, and by whose orders?—The pot-book is examined by the comptroller and the King's clerk; the pot-book describes the ingots, five or six go to a pot; what they are, where they come from, and the rest, according to the mode of keeping accounts; there may be five or six ounces or a pound of alloy to be added to make the standard, as it happens; that is the composition that makes it standard. Then these ingots are brought out and put into the pot, and he weighs the quantity of copper, five or six ounces, or whatever it may be, and that is also added to the pot.

116. Then that determines the quantity; by what process is it determined how much alloy has been added by the surveyor, in order to produce the standard?—That is determined by the comptroller, the King's clerk, and the melter himself, prior to the melting of the pots.

117. Do they do that without an assay, merely from appearance?—It has been assayed already; suppose I had got ingots which are called a carat better or more, and I have others called a carat worse or more, I put them together, making the better and worse come as near together as possible, calculating to what state of fineness the better one has come, and to what the worse, and then it appears in the difference so much of alloy or fine metal is wanted to make the standard.

118. Then each pot is made up of ingots previously assayed, and cannot be delivered but under the report of the King's assayer?—Only by the King's assayer.

119. And according to that the pots are delivered?—According to that the pots are delivered.

120. When the surveyor takes out a sample he goes to the King's assay master, who is to be the check, and upon whose report the standard bars are delivered?—Yes.

121. Mr. *Clay.*] Whom do you call the melter?—Mr. Mathison is the melter; the practical method of proceeding is this; you must recollect the melter is answerable in making up his pots; he regulates what size his pots shall be, and what ingots he can make up; he is therefore concerned with the comptroller and the King's clerk in making up these pots; he selects such ingots as are suited to his pots; altogether he has five or six, and he can select which he pleases.

122. *Chairman.*] What is the duty of the clerk of the iron, as far as regards the check department?—He has the care of all the matrixes, puncheons and dies; he delivers these out for the use of the moneyers for coining; he receives them from the engraver first.

123. Does he keep any books?—He keeps books, a ledger; so many dies that have been made; so many dies that have been delivered; so many dies have been returned as being faulty; so many dies have been destroyed; what is the whole quantity of dies made; what quantity destroyed; what in use; so many remain; that is the check instituted, so that no dies may get out of the Mint; and his accounts are examined by the deputy-master and comptroller from time to time, and signed by them.

124. Mr. *Wall.*] You said if you were not there yourself you were by your clerk, whom do you mean?—One of the clerks of the office, whose name is Hill; he is what we call the principal clerk in the office of receipt acting under the master.

125. He is not one of the five officers in the check department?—No, he is merely a representative of myself.

126. *Chairman.*] How is the operative department of the Mint composed?—The master's assayer. The master's first clerk, melter and refiner. The provost and company of moneyers. The chief and second engraver; and the superintendent of machinery; I cannot say that that is an office for the coinage.

127. What are the duties with respect to the operative department of the master assayer?—The master's assay master is to give his report, so that the bullion may be put into operation for melting, and also to ascertain the value of the bullion for which we are to pay the owners.

128. Mr. *Herries.*] To whom does he make that report?—He makes that report to the principal officers; I mean the comptroller, the King's clerk, the deputy-master taking it generally, they are the acting officers in the office of receipt; he makes his report to them. I say principal officers, because we are accustomed to

Mr. *J. W. Morrison.*

18 April 1837.

call them principal officers; it used to be the warden, master and comptroller, now it is the master, comptroller and the King's clerk.

129. *Chairman.*] What are the functions of the melter and refiner?—He takes an account of all the bullion which is brought to the office, that is, he has an account of the ingots which are brought, describing their fineness and their weight, and everything of that sort; and then he, in conjunction with the comptroller and King's clerk, makes up the pots with the alloy.

130. Mr. *Clay.*] Who is the comptroller?—Mr. Barton.

131. You have mentioned three officers, give me their names?—Mr. Morrison, the deputy-master; the comptroller, Mr. Barton; the King's clerk, Mr. Croasdale; those are the three officers in the Mint-office.

132. And it is to them that the report is made of the master's assay-master?—Yes.

133. *Chairman.*] Now, we were upon the duties of the melter?—The melter or his clerk attends at what we call every importation, that is, the receipt of ingots brought into the office; the report is read, and every ingot is calculated as to its fineness, and these are put down in the journals of the Mint-office, and the master's clerk, who is the melter, keeps a journal, so that he has a record of every description of ingot in his book; having got that book by him, he selects the ingots; if he thinks proper to make his pots of five or six ingots he can, and then these ingots have again to be calculated, as I told you before, with the quantity of alloy. Fine metal has sometimes to be added to make the standard; he is a party to that, with the comptroller and King's clerk; when they have adjusted the pots, the comptroller and King's clerk sign the books, and then the ingots are delivered out to him for his operation for melting: those are the preliminary steps of his office.

134. The melting duties are performed by contract?—His operations are by contract.

135. Have the goodness to state the nature of the contract?—The nature of the contract is, that he is to be charged with the standard amount of any quantity of bullion which is delivered to him; he is bound to return back in standard bars, proved by the King's assayer, the same quantity which has been delivered to him. He has to provide the various necessaries, melting-pots, fuel, labour, &c.; and everything in the way of expense, for repairs of machinery, &c. The furnaces and building are found him, but all the rest he is answerable for; and he is paid a certain price per pound weight for doing it, which embraces all his expenses, and he loses or gains, as it may happen.

136. What is the price?—It is so much per pound; it is mentioned in the paper I have produced, I can hardly call it to my recollection; it is according to the denomination of monies; if there are large monies, crowns, the rate is less; if small monies like sixpences or fourpences, they require a larger price, according to the numerary; if 12 pieces are made out of a pound weight, or 144, there is just the difference of labour upon it; there are different sized bars.

137. How is the melter paid?—The melter is paid by the master; it is the master's appointment, and the master makes his agreement with him, but he submits that agreement to the Lords of the Treasury, which they approve of; the master recommends, and they approve.

138. Is he an officer of the Mint?—He is the master's first clerk.

139. Does he receive any salary in that capacity?—He does not receive a salary; his salary was 100 *l.* a year, but it was thought that the melting was sufficient without any salary; he could not do any business in the office as clerk, and we were obliged to have a clerk in the office regularly, and Lord Wallace appointed a clerk, and the salary of Mr. Mushet was transferred to that clerk.

140. Now has any alteration taken place in the terms of the contract between the master of the Mint and the melter of late years?—Not since 1816, except that some time after a machine was introduced by Mr. Barton for adjusting and making the proper weight of the pieces; this was considered a benefit, and a per centage was taken from the price which was allowed to the moneyers and melter for the use of this machine; it is 2 per cent. upon what we pay them.

141. Can you state the amount of sums paid to the melter under the terms of that contract for any term of years?—I have not brought an account with me, but I could render such an account.

142. Will

Mr. *J. W. Morrison.*

18 April 1837.

142. Will you have the goodness to prepare such an account?—I will; I suppose that account must include everything; what is paid for melting, and what is paid for refining, and what has been paid for any private coinage that don't belong to the realm; in short every payment.

143. Every, only distinguishing it?—Yes.

144. Lord *Lowther.*] What do you mean by coinage not of the realm?—Any private coin like that for Demerara; we coined latterly for Mr. Mendizabel the Portuguese coinage, and for other parties; anything of that sort may be done at the Mint under sanction of the Government, which occasionally happens, and the prices are fixed.

145. What is the duty of the Provost and Company of Moneyers as regards the operative department?—They perform all the operations of coinage after they receive the bars from the melter; I am hardly able to go through it accurately; it is their own.

146. What is the nature of this company?—They are charged in the same way as the melter with a quantity of standard bars, which are delivered to them, and they must return back in coin an equal quantity for the standard bars which they receive; they are answerable, in the same way as the melter, for all the expense of waste or peculation, labour and fuel, and every thing of that sort, according to their contract.

147. The question rather referred to the constitution of the company; how is it composed?—They are a very ancient body of moneyers; they are part of the corporation of the Mint; they were called in former times workers and moneyers, and they have come down to the present day in that way; they have perpetuated their trade by taking apprentices from time to time.

148. How many members does the company consist of?—I think it is seven; there is a provost and six members.

149. Supposing a vacancy to take place in the company of moneyers, how is that vacancy filled up?—It is not always immediately filled up, because the moneyers do not enlarge their numbers if no coinage is going on, such as at the time during the Bank restriction, when there was not likely to be a coinage; it was no use increasing their numbers.

150. Suppose it be necessary to appoint a new member to the company, how does that appointment take place?—They make an application to the master to allow them to take an apprentice, and if they obtain his permission they take one.

151. But, in point of fact, is not an appointment of that description considered a valuable piece of patronage to the master of the Mint?—I doubt it, because a young lad of 14 years of age must look forward a long time before he can derive any benefit. They serve an apprenticeship of seven years, and they give a premium of 1,000 *l.*, I believe, to the company to come in. Now, if at the end of that seven years there is a recoinage, like the one in 1816, it would be a valuable thing; but supposing it is not very likely that there would be a coinage, why the young man might have turned his attention to something better.

152. But in the event of a vacancy taking place, is not the individual selected to fill that appointment chosen by agreement between the master and the company of moneyers?—Just so.

153. And, in point of fact, the master does occasionally make the appointment?—Yes.

154. Mr. *Wall.*] Can you state of how many the company of moneyers consisted at the time of the great recoinage in 1816?—I should think about seven at that time; I should think about six or seven.

155. Mr. *Clay.*] Are the company of moneyers themselves the sole judges of the number of which the company shall consist?—We consider so, because the master never, I believe, appointed a moneyer without the moneyer first coming to make application to him in the way I have told you; for a long time the Mint was going on and doing nothing scarcely, till 1816; there was no interest with them then to increase the number of their company; at that time, they applied to increase their numbers.

156. Mr. *Hume.*] To whom is the 1,000 *l.* paid?—I do not know.

157. *Chairman.*] Has any alteration taken place in the form of the contract between the Mint and the company of moneyers of late years?—Nothing since 1816, except that deduction which I have mentioned for the machine, paid by the

Mr. *J. W. Morrison.*

18 April 1837.

melter, and the same thing took place with the moneyers; it took place about 1818 or 1819; the terms were fixed at that time.

158. Can you furnish the Committee with the accounts, since the year 1815, paid to the company of moneyers, of the same nature as those which we have requested you to furnish with regard to the melter?—Yes.

159. What has been the greatest number of the company of moneyers?—There might have been 24 moneyers at one time.

160. Lord *Lowther.*] For the last 30 or 40 years?—I think they have averaged about seven in number.

161. Mr. *Wall.*] Might they amount to any number?—I believe, at the recoinage in 1774, they were as numerous as they are at present, but I do not recollect; I can procure the number.

162. *Chairman.*] Has the officer of the company a salary of any kind?—If the coinage does not amount, in any one year, to 500,000 *l.*, each member of the company is entitled to receive 40 *l.*, and they have received it; there has been that sum paid to them.

163. Have they houses within the Mint?—Some of them; the provost has a house; the senior moneyer has a house; and they have apartments over what they call their hall.

164. Does the machinery belong to Government?—The machinery belongs to Government.

165. What are the duties of the chief and second engraver, as regards the operative department?—The chief engraver?

166. Mr. *Warburton.*] State what the duties of the chief engraver are?—Mr. Wyon is the first, and a Frenchman of the name of Merlin the second. The chief engraver engraves the matrix; we call the first die so, with the impression of the King's head; and the second engraver, if arms are only wanted, engraves the die for the arms. The original matrix is from what we produce the working die, and these dies are overlooked and touched up from time to time by the engravers; before they are put into work, they are examined; that is generally the business of the engraver's department.

167. How is he remunerated; is it by salary?—By salary.

168. How is the second engraver paid; by salary?—By salary. Mr. Merlin, in fact, holds no regular appointment, from the Treasury; the master appointed him; it is not a King's appointment, by the King's warrant; it used to be entirely by the King. It is in the Treasury now, and the second engraver is merely appointed by the master.

169. Mr. *Ridley Colborne.*] Are they allowed to work for private individuals?—Yes, they always have been.

170. All of them?—All of them.

171. *Chairman.*] What is the duty of the superintendent of the machinery and die department, as regards the operative department?—Mr. Brande is the superintendent of the machinery; it is rather a new appointment, and was made when the new machine was put up. It was necessary to have some person to take charge of the machinery, and see it kept in order, and the office of superintendent of the machinery was made at that time; but it is not an old office, and we could not well bring it in without attaching it to some other; it was attached therefore to the clerk of the irons. At the same time there was given the fabrication of all the dies, the multiplying them, and the process of die-sinking; all that belongs to it.

172. What is the establishment of the clerks and subordinate officers belonging to the Mint?—The deputy-master has an assistant-clerk; he enters all the papers that the deputy-master has in correspondence; he has all the management of that, and he assists him in all the accounts, and he is in the way when the deputy-master is not. Suppose I am sent for up to the master, I entrust him with the key; if somebody sends for me to the Treasury, he attends to deliver out any of the bullion, or receiving any coin for the master, and I am responsible for him. There are four clerks in the office, and besides that there is a probationer to the assayer, and a probationer to the melter. I cannot enumerate them exactly; I believe you have a list of the establishment somewhere.

173. Mr. *Hume.*] They are not called probationers in the list?—Probationer assayer is one; we call him still a probationer in the meltings.

174. What is his name?—Mushet; he is a nephew of the late Mr. Mushet, the melter.

175. He

Mr. J. W. Morrison.

18 April 1837.

175. He is the second clerk in the meltings?—Yes; I should have called him second clerk, instead of probationer; his duty is entirely for the melting-house.

176. *Chairman.*] Mr. Brande is the superintendent of the machinery and clerk of the irons?—Yes. I do not know whether it is necessary to explain the process of die-making. The engraver gets a die made first of all, which is called the matrix die, and he engraves this; then it is hardened by the superintendent of dies in the die shop, and having succeeded, if it does not break or anything of that kind, from that die they get what is called a puncheon, from which they get a multiplicity of dies, which is the business of Mr. Brande.

177-8. Lord *Lowther.*] There is Mr. Pistrucci?—He is entirely distinct from the coinage; he only makes such medals as the Government may require.

179. Mr. *Hume.*] Such as the coronation medal?—No, the chief engraver made the last; he ought perhaps to make them.

180. Is Mr. Pistrucci the chief medallist?—Yes; he receives an allowance as medallist. He could not hold the office of chief engraver, and then Mr. Tierney, the master of the Mint, divided the allowance given to the engravers of 700 *l.* a year, between Mr. Wyon and Pistrucci, giving 350 *l.* a year to Mr. Wyon, and 350 *l.* a year to Mr. Pistrucci. It appears, however, that he has only 300 *l.* a year.

181. Mr. *Ridley Colborne.*] That arises from some difficulty about his being a foreigner?—Yes; he had the dies under his control, as a foreigner he could not have that trust. By the Act of William 3, he was disqualified from holding the situation of chief engraver.

182. Lord *Lowther.*] Was not Mr. Wyon capable of making these dies?—Mr. Wyon was under Mr. Pistrucci, when he was chief engraver; I call him the chief, though he was not regularly appointed.

183. *Chairman.*] When Mr. Pistrucci was appointed chief engraver, the master of the Mint was not aware that the circumstance of his being a foreigner incapacitated him from holding that situation?—The appointment was given him as chief engraver by the master; as far as I heard, he says, "You shall be chief engraver;" and after it was found out that he could not give the appointment to Mr. Pistrucci, he did not get the appointment signed by the Crown.

184. Mr. *Ridley Colborne.*] Does the country gain anything by the use of Mr. Pistrucci's great ability?—I think, very much indeed. When Mr. Pistrucci came over to this country, Mr. Pingo was the chief engraver, and Mr. Marchant was also an engraver; they were very good artists. Mr. Pistrucci made very great improvements in the coin. Mr. Pistrucci at that time was to be modeller, and Mr. Wyon (not the present Mr. Wyon, but a cousin,) held the office of chief engraver. Mr. Wyon was to engrave his dies from Mr. Pistrucci's model. Wyon died, and the place became vacant. Then, Lord Maryborough seeing that Mr. Pistrucci was equal to engrave the dies, said he should be chief engraver; and I do not know that any man in the country was competent to fill the office of chief engraver to the Mint at that time.

185. Mr. *Clay.*] What advantage does the country gain now by the acknowledged talent of Mr. Pistrucci?—They gain nothing, unless they will make him the head of a school for teaching young men a knowledge of the arts.

186. Has he performed any public act within the last 10 years?—He made a model for meritorious soldiers some time ago, but there was no scope for his ability in that, because there was merely arms and a few warlike emblems.

187. Sir *Charles Lemon.*] Is that the only work within the last 10 years that he has performed?—I do not know of any other; he could not make a coronation-medal without having a sitting of the King.

188. Mr. *Wall.*] Have you got the date of the appointment of Mr. Pistrucci?—I think it was 1816 or 1817.

189. Lord *Lowther.*] Do you attribute to him the great improvements in the coin?—I really do.

190. Mr. *Herries.*] What was the date of the last minute upon which the office was regulated?—It was regulated by Mr. Tierney.

191. *Chairman.*] Did not Mr. Pistrucci abandon his private profession at the time when he entered the service of the Mint, under the supposition that he was to be appointed chief engraver?—Yes; he certainly gave up all his time to the Mint; he engraved very few gems.

192. Mr. *Herries.*] He is engaged upon a great medal now?—He was engaged upon a great medal, but having been removed from his office of chief engraver,

Mr. *J. W. Morrison.*

18 April 1837.

and his salary taken from him, he says that the terms upon which he was to execute that medal have not been fulfilled, but that he is ready to execute his contract whenever the Government will fulfil the contract which they entered into with him.

193. Mr. *Warburton.*] Has he not held that office for a great number of years without executing any medal whatever for Government?—There is this medal which I have mentioned, and he is ready to execute any that may be ordered.

194. Answer the question; has he not held the office for a number of years without executing for the Government any medal whatever?—Except the medal I have mentioned.

195. But that is not complete?—Some part of the medal is not complete.

196. Has he not executed some other medal, from a design?—I am not aware of any other just now.

197. Mr. *Hume.*] You say he only receives 300 *l.* a year?—Yes; the Treasury have taken off 50 *l.*

198. *Chairman.*] Will you have the goodness to state to the Committee the whole process that takes place, from the time at which an ingot of gold is imported into the Mint, to the period when it is issued from the Mint in the shape of money?—The bullion or ingots are brought to the Mint, and it being ascertained that such ingot has been melted by approved refiners in the trade, and also an assay upon the purchase by the King's assayer, they are taken into the master's assay-office, where pieces are cut out for him to assay; the ingots are then locked up under the keys of the deputy-master, comptroller and King's clerk, and as soon as the ingots are reported by the master assayer they are weighed by the weigher and teller in the Mint-office, in the presence of the importer and the Mint-officers and the clerks, who calculate the fineness of each ingot, and ascertain the standard value of the whole importation, when a Mint bill and receipt is given to the importer, signed by the deputy-master and witnessed by the comptroller and King's clerk; the Mint being bound to return an equal weight of standard coin. The ingots are then made up into pots of a certain weight, and a portion of alloy or fine metal calculated, which is to be added in the melting to produce the standard; they are then cast into bars fit for the moneyer's operation; an assay being made by the King's assayer, with reference to the delivery of the bars, from a sample taken from each pot by the surveyor of melting for that assay, the moneyer rolls the bars to the proper thickness, and cuts out the piece for the stamping of the intended coin; and having made that piece of the right weight they are coined, and are put into bags of a given weight to be examined by the King's assayer, the comptroller, the King's clerk, weigher and teller, at the process called the pix. The money is then locked up till the assay is reported by the King's assayer, when it is delivered to the owner weight for weight, as expressed in the Mint bill which had been given, and which bill and receipt are then returned.

199. You state you require the bullion that is brought to the Mint to be assayed on the purchase by the King's assayer, what do you mean by that?—The bullion that is purchased by the King's assayer's report, is chiefly brought to the Mint; he is employed, being considered a skilful assayer, and it has been the practice for a long time when the Bank purchased, to send the assay to the King's assayer, and he determines the value of the assay. When the Bank bring their bullion to the Mint, they bring at the same time Mr. Bingley's report. The ingots are then tried by the master assayer's assay, and if it corresponds with the assay upon which the ingots have been purchased, he is satisfied that he is right; otherwise he would have to make a double or treble assay; if he sees it corresponds with the purchase assay, then he is right; if an ingot is brought to the Mint which has got an assay paper of some foreign assay, somebody we don't know, we don't receive it, if it is even in our own country. Suppose Mr. Johnson, the eminent assayer, a skilful person, we consider his practice is not as correct as the practice at the Mint, and therefore we don't depend upon it; we don't mean to impugn his skill, but we only depend on Mr. Bingley; therefore we say to the parties, we don't receive your assay; we must have the assay by the Kings's assayer, because it is settled in the indenture that if any misunderstanding arise between the merchant bringing the bullion, and the master of the Mint, then the King's assayer shall determine whether the master shall be bound to take the bullion according to his report.

200. In

Mr. *J. W. Morrison.*

18 April 1837.

200. In point of fact, it is obligatory upon the importers to procure the previous assay of the King's assayer upon his bullion before he brings it to the Mint?—I should say it is, from the practice I have adverted to.

201. There is, I believe, a fee received upon that previous assay?—Yes.

202. How is the amount of fee determined?—It is not paid by the Mint, it is paid by the owner of the bullion.

203. What is the amount of that fee?—It is agreed between the Bank and Mr. Bingley; they need not employ him if they don't please; it may happen that the Bank may purchase an ingot of gold and keep it in their vault for several years before it is brought to the Mint, and if it appears to be purchased on Mr. Bingley's assay we take it.

204. I think you stated to the Committee that bullion would scarcely be received in the Mint unless it had been assayed previously by the King's assayer?—I should always recommend it; when it has been departed from, in gold or in silver, inconvenience has followed.

205. And the amount of fee paid by the public, whether it is the Bank or any other importer, upon this assay, which is requisite at the Mint, is not regulated in any manner, but left to the discretion of the King's assayer?—Yes; if no assay is required, no fee is required at the Mint when the ingot is brought. That ingot may have been bought for a long time, and the fee may have been paid some years back for what we know; but if an ingot is brought which is assayed by some other assayer, whose assay is not satisfactory, we then request it to be assayed by the King's assayer, and he has his fee.

206. I think the previous assay by the King's assayer is considered to be a private assay, and one which the Mint takes no cognizance of otherwise than by requiring it to be done?—Yes.

207. Mr. *Herries.*] Have you a right to require that: might not any importer bring an ingot to the Mint, and say it is so and so, and immediately require you to coin upon it, or have you a right to require that Mr. Bingley should assay it?—We have a right to require it, from a clause in the indenture, which says, that if the master and importers do not agree, that reference shall be made to somebody; the reference was made to the King's assay-master. You will recollect that the master has all the responsibility, and, supposing the report is made by an assayer whom he does not know, he may be charged with too much value. It is necessary, therefore, that he should guard himself as much as possible, to prevent being imposed upon.

208. Mr. *Warburton.*] But suppose the importer says, I have no report from any assay-master of my own, neither have I the King's assay-master or any other, and shall be satisfied with the assay you make at the moment, would you then take it without any assay of any other party, making your own trial as to the party who brings the bullion?—There must be a verification of it. Suppose there is only time to make one assay before we put it to work; how is the master to be protected if he has not a verification?

209. Why not make the assay yourself?—Because the master assayer may have got 100 ingots from the Bank, which we may be called upon to coin immediately, and delay would occur if we had to make a double assay.

210. Mr. *Herries.*] Then it is only for the convenience of the two parties that the experiment takes place; I thought there was a right, on the part of the Mint, to insist upon an importer bringing with him, with his ingots, the King's assay; that it was a certain thing?—Under an old Act of Parliament of Charles 2 I believe we should be bound to take anything.

211. *Chairman.*] In point of fact, according to the practice of the Mint, do you or not receive bullion which is brought which has not been privately assayed by the King's assayer?—The practice is not to receive it.

212. And then I think you stated that there was no fee; that the fee charged by the King's assayer upon a previous assay was considered to be private, and not regulated in any manner by the Mint?—Certainly not.

213. Mr. *Hume.*] Do you know whether the amounts that were charged when the Mint was in the Tower, have been changed?—Yes.

214. Are you aware whether the private assays by Mr. Bingley are numerous or not?—After the restriction of the Bank to make cash payments, there was scarcely any gold brought to the Mint for coining; the only quantity was about, perhaps, 200,000*l.* in a year, which was coined in half-guineas, chiefly for the convenience of paying dividends; I happened to be the melter at that time.

Mr. *J. W. Morrison.*

18 April 1837.

215. When you first went, was any private assay made?—Yes; and before my time I remember hearing of a person who was in the situation of King's assayer, a Mr. Lucas, who did not care about troubling himself with assaying for the Bank; in consequence of that, the other assayer at that time, Mr. Alekorne, assayed for the Bank and took the fees.

216. Who was he?—He was predecessor of Mr. Bingley, and a very intelligent man.

217. Has the Mint at all interfered with regard to the charge for private assays?—Never, that I know of.

218. Did you recollect when the charge for private assays was 2*s.* 6*d.* for an ingot of gold?—I do not recollect that; to tell you the truth, I did not know what Mr. Bingley did charge till about a year ago, when an inquiry was made, and he then told me what the charge was.

219. At the time you went, what was the weight of an ingot; was it 60 pounds?—A silver ingot was 60 pounds, and gold 15 pounds; that was the average weight.

220. You do not recollect when the assay was 2*s.* 6*d.*?—No.

221. Is not the charge 5*s.*?—No, I think it is only 4*s.* now.

222. When was it lowered from 5*s.*?—Mr. Bingley will tell you; I really do not know when.

223. Then has it been left to Mr. Bingley to charge whatever he thought proper for those assays?—I suppose it has been left to him; the governor of the Bank settles the price with him.

224. *Chairman.*] Do not other parties import? You are supposing that the Bank are the only importers of bullion?—They are the chief importers; we have had some from Mr. Sharp, but we have little from anybody, except what we get from the Bank.

225. Mr. *Hume.*] Are you not aware of any interference with Mr. Bingley as to this charge?—None at all.

226. Now what was the charge for an ingot of silver; do you recollect?—I do not know; I have not put it down; it may be 2*s.* 6*d.*; I really do not know.

227. Do you recollect when it was 1*s.* 3*d.*?—No, I do not.

228. Do you know that it was raised from 1*s.* 3*d.* to 2*s.* 6*d.*?—No, I do not; at least to my own knowledge.

229. Then you are not aware that 7*s.* 6*d.* has been charged?—Not at all.

230. Have you never heard any report of the number of private assays made by Mr. Bingley?—We have had no report; he was at liberty to charge according to the motion made last year.

231. Do you know whether Mr. Bingley, in making these private assays, without the interference or knowledge of the master has made use of materials paid for by the public for the public business?—Certainly he has.

232. Has he not used pots, fuel and everything connected with the public department for his private use?—Yes, upon an understanding that it has always been so.

233. Then was he allowed to make these assays and use the materials called water-silver, blues, and everything required, without any inquiry from the board as to the emolument he received?—Certainly, no inquiry was made about it.

234. Have you any idea that his assays have produced a profit of 4,000*l.* or 5,000*l.* in one year?—I never took the trouble to calculate, but I should think it might be 2,000*l.* a year.

235. And it was never questioned by the board, that an individual receiving thousands of pounds for private assays, should not be called upon to pay for the materials which he required for those assays?—I never inquired into it at the board, because I considered it justified by an Order in Council that the King's assayer was to make private assays.

236. I ask you this question, at the board, when the accounts came for coals, water-silver, those articles necessary for assays, was it never a question with the board how it was expended?—No, we always passed this fuel and water-silver in the coinage that was going on. I believe the water-silver is a perquisite of the King's assayer.

237. You say it is a perquisite?—Yes.

238-9. Will you state what is the amount of water-silver, and for what purpose it is used?—It is a part of the process of assaying, when we want to separate the silver

Mr. *J. W. Morrison.*

18 April 1837.

silver from the gold. It is done by nitric acid; supposing a portion of gold contains silver, but it is a very minute portion of silver, when the metal is put into the acid, without they add more silver to it, the acid will not act upon the silver; it wants a larger body to bring it into action; I do not exactly understand the process myself, or what quantity of silver is necessary to be added to it to bring the nitric acid into action; the silver that is so produced is called the water-silver.

240. Mr. *Warburton.*] Is it requisite to be quite pure silver?—Yes; we provide from time to time about 200 ounces, according as it is wanted. Formerly, I believe, the water-silver might be thrown away, but now it is retained; they precipitate the silver in the nitric acid by copper.

241. Mr. *Hume.*] By the return made before Parliament, it appears that 4,008*l.* is paid for water-silver?—Yes.

242. Why are you not aware that the largest portion of water-silver is applied to private assays by Mr. Bingley?—I do not know what portion may be applied by him. I have no knowledge of what his private assays are; but I do say that the private assays are for the benefit of the Mint, because, the more practice the assayers have the more skilful they become; therefore, though it may be said to be used partly for private assays, it becomes indirectly of public use.

243. But has Mr. Bingley been paid by private individuals for every such assay; not only has he received payment for private assays, but he gets a salary from the public, and he gets all the materials and all the utensils he requires?—No doubt.

244. Why, does he not precipitate the silver, and afterwards dispose of the blue liquor?—He precipitates the silver, and disposes of it.

245. Was there never a question at the board, what became of the water-silver after separation?—We considered it belonged to him, and it was not for us to say anything about it, because it was directed that he should have it by the Order of Council.

246. Did not the committee to which you refer direct it to be given to the public and not for the private emoluments and private assays of Mr. Bingley?—I am not aware of that.

247. The return here states that the quantity used in the assay-office was 264 pounds, and in the King's assay-office, was 952; how did you get these reports, because you say there never was a question before the board about it; when was this called for; how do you get these returns so far back as 1821?—The assayers made the returns themselves.

248. Mr. *Warburton.*] Pray did it never occur to you, or to the board, that if Mr. Bingley was to conduct these assays at the expense of the public, and if all the parties possessing bullion were by a regulation of the board required to employ the King's assay-master, that at least the board should regulate the price at which the assay should be conducted for private individuals?—They are private assays, after all.

249. Private assays conducted at the public expense, is it not?—Yes; but then you see to what a state of perfection assays have been brought, and the trouble taken to acquire such knowledge; I have heard it spoken of Mr. Harris and Mr. Alchorne, men of great skill, how much trouble and labour it cost them to bring assays to perfection; I think it is for the benefit of the public to give encouragement to skill as much as possible.

250. Have you any knowledge yourself of analytical chemistry?—I have not.

251. Now do you know how far the amount of knowledge belonging to the assaying process of metals exceeds the degree of skill in analytical chemistry required in discovering other minute substances?—I know so much as this, that when Sir Humphrey Davy was asked to make an assay, that he said he could not make an assay like Mr. Bingley.

252. Do you not apprehend that there are plenty of chemists who have the necessary degree of knowledge, and who would consider themselves remunerated with a far less sum than 2,000*l.* or 3,000*l.*?—Yes, there is competition in everything.

253. *Chairman.*] I think you have stated that there never was the least concealment of this system on the part of the King's assayer, either to the board of Mint officers, or to the master, or to the Treasury, or to Parliament?—Not that I know of; one of the comptrollers, Dr. Davis, complained that Mr. Bingley should be allowed to employ the public coals, labour and acids, and things of that

Mr. *J. W. Morrison.*

18 April 1837.

sort; Lord Bathurst was master of the Mint at that time, and there was a Privy Council for the consideration of the establishment; but I believe Dr. Davis satisfied himself about Mr. Bingley, and he did not question it any more; he said that if the master of the Mint, and the Privy Council and the Treasury, were satisfied about it, it was not his business, as comptroller, to give himself any further trouble; that he had done his duty in stating it.

254. Mr. *Hume.*] Has Mr. Bingley any private establishment whatever for doing the private assays for which he is paid by the merchants?—None.

255. You have stated that all the materials which he requires for these private assays, for which he is paid, are supplied by the board?—I believe so, but I do not know everything that is required for the assays.

256. Have you ever had any return of the number of private assays done by Mr. Bingley?—Never, except the returns that have been made, which returns come from Mr. Bingley, according to the motion made by you.

257. *Chairman.*] Were those returns taken from books of the Mint, or from Mr. Bingley's private books?—From his private book we have no account whatever.

258. Do your returns with respect to the private assays rest upon Mr. Bingley's own authority?—Quite so.

259. Mr. *Hume.*] Do we understand that you received no emolument whatever, that you have no connexion with these private assays?—None whatever.

260. When were you first aware of Mr. Bingley's employing the public materials for these private assays?—From time immemorial; as long as I can remember.

261. You have said that two reports of the assays are made of all bullion sent in by the Bank; now, to whom is that made?—The Mint report is compared with a report of the purchase assay. That is delivered to the master's assayer.

262. You have stated that there is the check assay, as a check to the master's assay?—Yes, to the coinage.

263. Are you aware of any arrangement made between the master's assayer and the King's assayer before they deliver their report; I believe that is one of the reports, is it not? [*handing a paper.*]—They do not come from us, they are Mr. Bingley's reports.

264. Are you aware that the master's assayer and the King's assayer, instead of being a check upon each other, the latter on the former, that they meet together and agree what report shall be sent to the Bank on the bullion they have sent; have you any knowledge of that?—No; the Bank have always a great advantage.

265. Do you mean that if I am a merchant wishing to sell gold to the Bank, that the Bank requires to have it assayed, and these reports furnished on my gold, before they will pay me?—No.

266. Then what do you mean?—Mr. Bingley makes the report according to the purchase assay, and the master's assayer is always looking forward to the operation I have told you of, of five or six ingots going into the pot together.

267. What is the advantage that the Bank derives from the amount of assay of my gold?—Why the master will give the full value of the ingots.

268. Sixteen pennyweights for example?—The master's first statement will be that he has purchased ingots at 16 pennyweights, and when they come to the master's assayer, he may perhaps call them 16 pennyweights and a half.

269. Mr. *Warburton.*] Why so?—These 16 pennyweights may perhaps contain a few grains more of silver than 16 pennyweights, but the King's assayer cannot call it more, he cannot call it without it amounts to a full half of a pennyweight; when he finds it is 16 pennyweights and six grains, he could not call it any more than 16 pennyweights; calculating several ingots altogether, he is able to give the importer the full value of the bullion.

270. Mr. *Hume.*] That would be owing not to the mere amount, but a combination of the fractions?—Yes.

271. When a great number are mixed together, the whole mass has the benefit of those fractions, which are not recognised in giving the assay upon the isolated ingot?—Yes.

Veneris, 21° *die Aprilis*, 1837.

MEMBERS PRESENT.

Mr. Thomas Baring.	Right Hon. Henry Labouchere.
Mr. Clay.	Mr. Hume.
Mr. Herries.	Mr. Warburton.

RIGHT HON. HENRY LABOUCHERE, IN THE CHAIR.

Mr. *James W. Morrison*, called in; and further Examined.

Mr. *J. W. Morrison.*

21 April 1837.

272. Mr. *Hume.*] AT the last examination you were asked, "When a number of ingots are mixed together, the whole mass has the benefit of those fractions which are not recognized in giving the assay upon the isolated ingot;" you said, "Yes." Who has the profit arising from that surplus?—On the gold we receive from the Bank the Mint bill is made out, with all the advantage to it; the Bank has a receipt for the value of that gold, and when the Mint bill is made up it amounts to so much, and the Mint is charged with that value, so that the Bank have it in the receipt we give to them.

273. Mr. *Herries.*] The Bank derives the profit from the difference in the report of the master's assayer, and the assay by which the Bank purchased the gold?—Yes.

274. Mr. *Hume.*] In that case the merchant who imported or who sold to the Bank loses that difference?—Yes, because the Bank have the advantage; they buy it upon the report of the King's assayer, then, when the Bank brings it to the Mint it is valued to them on the report of the master's assayer.

275. Why is not the report made on the real value?—We have to produce a standard, and if we were to make the report on an ingot really finer than that the purchase report says it is, the metal would not be the standard.

276. It is not supposed you should report finer, but that you should report the actual value, bringing it to what the metal is?—Yes; but in respect to the manner in which the difference arises, I should think the assay-master will be able to make it clearer than I am able to do.

277. Do you not consider it the duty of the assayer, in assaying gold, to deliver the real value and not a decreased value, by which the Bank purchasing from the merchant has the advantage over the merchant?—It is our duty to give the real value; the purchase value is not the real value.

278. Do you give the real value in the reports?—We give the real value to the importer of bullion into the Mint for coinage; we give him the full value for his gold.

279. By the importer, do you mean the person who sends the gold to the Mint?—*A.* or *B.*, who brings the gold to the Mint.

280. Do you give the Bank credit for what appears upon Mr. Bingley's report?—No; we give the Bank credit for what appears upon Mr. Beckwith's report (the master's assayer). We are bound to give coin back to the standard amount according to the assay of the assay-master, Mr. Beckwith.

281. In every such case, then, are the Committee to understand that the Bank of England, in consequence of the report made by Mr. Bingley differing from the real value, gains the whole of that difference on each ingot, and that the merchant who sold it to the Bank has lost it?—The Bank clearly gain it.

282. Is there any regulation or rule by which that was established, or when was it established?—It is the practice of the office; I do not know when it was established.

283. Do you mean to say, that upon all the gold which was coined since 1816 that has been the rule, and that the Bank has had the benefit in all those cases?—Yes, so far as respects the Bank.

Mr. *J. W. Morrison.*

21 April 1837.

284. Can you give a statement to what extent that has gone?—No, we cannot; because we have no record of the purchase-assay; we merely, in our books, set down Mr. Beckwith's assay; and we calculate by his assay what is the standard value of 100 ingots, and hold ourselves responsible for that.

285. Is not Mr. Bingley's report brought in at the same time with the ingot, and registered in your office?—Not registered in our office. There may be a communication between Mr. Bingley and Mr. Beckwith as to what the purchase-assay was.

286. Does not the surveyor of meltings, in filling the pot with ingots, make up the pot by the report of Mr. Bingley?—Not the surveyor of meltings; the melter makes up the pot-book, and the comptroller and the King's clerk check the pot-book. The importer attends at the time that his bullion is weighed in, and the assay reports are read off at the time.

287. By whose report?—Mr. Beckwith's; upon which the gold is brought into the Mint. If the ingot is called a carat better, and the weight is 15 lbs., a calculation is immediately made upon that ingot, and so it goes through the 100 ingots; and at last it is declared perhaps that the 100 ingots weigh 1,500 lbs. gross weight; by the standard weight they may value 1,510 lbs., and that is the weight we give in money to the Bank; then those ingots, having all their writings upon them, are made up, so many to a pot; the melter generally makes this assortment, because he is a party concerned in the result; they are put into the pot-book, each pot containing about five ingots; with so much copper put to each pot for alloy.

288. There are no minutes of the board as to the report of Mr. Bingley; but it is merely custom which has allowed it being done?—Yes.

289. Mr. *Clay.*] There is no rule which prevents a merchant bringing gold direct to the Mint, without the intervention of the Bank, is there?—None whatever; the Mint is open to all.

290. In that case, would not the merchant himself be what you call, at the Mint, the importer?—Yes.

291. Being the importer at the Mint, would he not derive that advantage from the fractions, when the ingots are blended together, which you have stated the Bank now derives?—No doubt he would; exactly the same as the Bank.

292. Mr. *Hume.*] Can you state what proportion of the gold is brought in by private individuals, and what by the Bank?—Before the Bank resumed cash payment, a great many individuals brought in gold to the Mint, about the year 1819, I think, as the Bank could not be importers at that time; Mr. Rothschild and others brought in gold.

293. Since that, has not the Bank practically been the principal importer?—Yes. We had an instance, the other day, of Mr. Sharp bringing us in 20,000 *l.* of gold bullion for coinage.

294. Has that been the case for several years?—For several years we have had none from private individuals.

295. Mr. *Herries.*] Was not there another occasion when there were private importers besides the Bank?—Yes; there were private importers in 1830; Mr. Rothschild and others.

296. Were there not private importers at the time when the Mint was enabled, by means of the fund of gold in their possession, to give a speedy return to the importer of the gold imported?—Yes; that was in 1830, I think.

297. The reason why the Bank is practically the sole importer is, that other individuals cannot, under the present system, obtain a return of coined money for the gold imported in sufficient time to avert a considerable loss by the delay?—Yes, exactly so.

298. *Chairman.*] You stated when you were last examined what were the fees and emoluments you received as deputy-master, besides your salary; is there any addition you wish to make to the statement you then made?—Yes, there was an omission; the Mint is allowed to carry on what we call private coinages, those are coinages made some years ago for the East India company, coinages for the states of Demerara and Essequibo, and a coinage was made for Portugal; the operative officers of the Mint are the persons who take the contract, and the check-officers are allowed on those occasions to receive a small fee; it appears last year I received upon the Demerara coinage 2 *l.*; and altogether, since 1826, about 120 *l.* I did not state that, because the impression upon my mind was, that

that the question referred to what was paid by the Government to the deputy-master; this private coinage is authorized by an Order in Council.

Mr. *J. W. Morrison.*

21 April 1837.

299. Mr. *T. Baring.*] Is the fee a fixed amount, or does it vary?—It is so much upon the journey weight or pound weight; it is so small it will hardly tell upon the pound, therefore we put it on every journey weight, or 60lbs.

300. It is always the same?—The weight is always the same.

301. Mr. *Hume.*] What is a journey of gold and a journey of silver?—A journey weight of silver is 60lbs., a journey weight of gold 15lbs.; but we have no gold coined privately.

302. *Chairman.*] Has no alteration been lately introduced as to the mode of keeping the cash account within the Mint?—When that question was asked before, I thought it was as to the mode of making up the audit account, which is precisely the same; but last year we introduced the mode of double entry into our cash accounts, at the direction of the Treasury, and according to the mode which was prescribed by the commissioners who were appointed to inquire into the mode of keeping accounts in public offices, and our books are now made out in that manner; but the audit account is precisely the same.

303. The cash accounts of the Mint are now kept on the system of double entry?—Yes, as prescribed by the Treasury; we did not do it before.

304. Mr. *Hume.*] Is that the alteration alluded to in your report dated 12th November 1836, and which you state that Mr. Brooksbank communicated to the Treasury?—I believe it is.

305. From what period does your account by double entry begin?—It begins with the last year's account, from the 31st of March 1836.

306. Have you carried into effect the manner of keeping your subsidiary account of profits and assets, as stated in your report?—I have carried it into effect so far as I have been able to do it. I have an account of all the profits; the assets are taken every quarter; that account will be completed in a day or two.

307. What charge is made for those private coinages to the individuals to whom you have referred?—It is a contract which is allowed by the Master of the Mint; it depends upon the coinage what it may be.

308. Has each private coinage a separate contract made with the moneyers?—A separate contract made with the office generally, allowed by the master, founded upon the prices of the indenture; suppose the Portugal crusados or anything else were wanted to be coined, we calculate the number of prices in the pound at the Mint rate, and make a price accordingly, and submit it to the master; then, out of that, we divide it according to the account I have referred to.

309. All those coinages are made with the machinery of the Mint and the materials of the Mint?—Yes.

310. Is there any profit or allowance to Government for the use of that machinery or those materials?—There is a surplus generally on the full allowance, which is taken and applied to providing the dies and contingents; but there is no direct allowance to the Government.

311. Can you give the Committee a statement of what has been the surplus from those private coinages applicable to defray the expense of the public machinery and materials?—I can.

Mr. *Henry Bingley*, called in; and Examined.

Mr. *Henry Bingley.*

312. *Chairman.*] WHAT appointment do you hold in the Royal Mint?—King's assay-master.

313. How long have you held that appointment?—I have held it about 16 months, from the 1st of January 1836.

314. You succeeded your father who held that appointment before you?—Yes.

315. How long had he held that appointment?—About 35 years in office, and been nearly 50 in the Mint.

316. Do you know whether it is an office of great antiquity?—It is an office that is described as having existed in the time of Henry III.

317. What are the particular duties and functions of that office?—I beg to refer, in the first instance, to my first report upon this subject; speaking generally, I should say the King's assayer is a control or check upon the purity, both as to the weight and fineness of the whole circulation of the country, both gold and silver. He has to examine all the gold and silver that is melted previous to coinage; nothing is allowed to be manufactured without his consent or report, and sub-

Mr. *Henry Bingley.*

21 April 1837.

sequent to manufacture he is again obliged to examine all the gold and silver coin, of which no portion is allowed to go from the Mint until it has his authority for so doing; he is a board-officer and obliged to attend to the duties of the Mint generally, and to superintend everything which relates to the accuracy or purity of the coinage; he is responsible to Government for the proper discharge of his duties; the Master of the Mint can only fulfil his obligations by confiding in the King's assay-master for the performance of his duties.

318. What is the present salary?—The present salary is 750 *l.* a year; it was reduced from 900 *l.* on my accession to the office. Having no gratuity, I receive on the whole 300 *l.* per annum less than my predecessor.

319. That reduction was made by the Treasury on the representation of the present Master of the Mint?—I understood so.

320. Was any alteration made in the tenure of your office at the same time?—It was, till my time, a patent office, but it was changed at that time to a Treasury constitution.

321. Mr. *Hume.*] Do you know that salary was 700 *l.* in 1812?—In 1812 it was 750 *l.*, and raised by Lord Maryborough 900 *l.*

322. *Chairman.*] Does the King's assayer derive any profit from fees or other emoluments beside his salary?—He has the privilege, and has always had the privilege, of making what are called private assays; they are, of course, a source of profit and emolument to him; just as the engravers of the Mint are permitted to do work for their private emolument.

323. Has he any fees, or direct sources of emolument of any kind, besides those private assays?—He has the same fees Mr. Morrison has described on the coinages, arising from private individuals, of possibly the same amount as Mr. Morrison's, or nearly the same. He has other advantages from water-silver; and I may state, uses the office materials, which have always been allowed him. I do not state that as a source of emolument, for I am not able to call it a source of emolument; but it is a privilege which has always been allowed to the King's assayer.

324. Mr. *Hume.*] What do you mean by materials?—Being allowed to perform private assays with public materials.

325. Do you include in that, charcoal, silver, acids, or anything of that kind?—I do; such has been long the practice.

326. Mr. *Warburton.*] What becomes of the precipitated silver; is not that considered a perquisite to yourself?—It is, and always has been.

327. *Chairman.*] The system now described is one that has been the invariable practice of the Mint with regard to the assayer for a great number of years?—I believe, always. I am not aware of a time when the practice was at all different.

328. Mr. *Warburton.*] Has it always been the case, that the Mint required parties bringing bullion to the Mint to obtain the assay of the King's assay-master?—I am not aware that there ever was a time that bullion was brought to the Mint without having the report of the King's assayer attached to it, and that from the fact of the King's assayer having been universally applied to for the purchase of gold and silver.

329. Was it always required by the board that there should be a report of the King's assay-master?—As long as I can recollect back it always has.

330. To how many years does your recollection go back?—My time and my predecessor's time, both together, 50 years.

331. Do you undertake to say that during the whole of that period of 50 years, if the report of any other assayer than the King's assay-master had been offered to the Mint, they would have rejected it, and required that of the King's assay-master instead?—I think so.

332. *Chairman.*] Yet it has always been the habit of the Mint to consider those previous assays on the part of the King's assayer as a private matter of which the Mint take no cognizance, and the amount of fees have been in consequence of that circumstance not controlled?—It has always been considered so, certainly, on account of their having no reference to coinage.

333. No account of the amount received for those fees is kept by him?—None but private ones, which were always considered private, but of which we have now for the first time given an account to the House of Commons.

334. That

334. That account was rendered by your father?—Yes; but till that time we always considered it private, and they were acknowledged as private by the Committee before which my father was examined in 1814; both the assays and the charges upon them were then considered strictly private; but there has been a return of it to the House of Commons, as he was desired to make one; the only ground for their not being private fees, in his opinion and mine was, their being done by the office materials.

335. In point of fact, do you not as King's assayer, assay for private individuals a great deal of bullion that never comes afterwards to the Mint for coinage?—The greater portion is so circumstanced, certainly.

336. Can you state to the Committee any estimate of what the proportion is in that respect?—No, I cannot accurately; but I may venture to say the greater portion has no reference whatever to coinage.

337. Still, does it not happen that individuals who possess bullion are more likely to go to you to have it assayed than to any other assayer, from the circumstance, that if it should be at any time imported into the Mint for coinage, they must in that case come to you for the purpose of having it assayed?—That may possibly influence to a certain extent, but the chief reason is, their confidence in the skill and integrity of the office.

338. Mr. *Warburton.*] Do you not think it would be a reason sufficient to induce them to give you the preference?—Yes, I think it would be one reason, certainly.

339. Mr. *Clay.*] Will the Bank buy on any other assay but yours?—Not gold that they meant to send to the Mint for coinage.

340. Is not by far the larger portion of the gold which is brought into England bought by the Bank to come to the Mint?—Certainly.

341. Mr. *Warburton.*] To what extent do your gold assays go; do you determine the quantity of palladium as well as silver?—No; we are very sorry to meet with palladium with it.

342. Are you not aware that, in a very large quantity of gold, there is a notable portion of palladium?—Yes, but the assay is for the quantity of gold or the quantity of silver.

343. Are you aware that the platinum has been sometimes separated from the Brazilian gold to prevent that pale colour which it gives to gold?—Perfectly; but that is the business of the refiner.

344. Mr. *Herries.*] Has there been any alteration in recent times in the mode of making your report with respect to the fractions on which you make your report?—There has been an alteration lately; we report the gold more closely than we used to do, so that the Bank do not obtain the same advantages; we report to an eighth instead of a quarter, by which the Bank are deprived of that difference.

345. When did that alteration take place?—To the best of my recollection, six or seven years ago; seven grains and a half is the lowest gold report.

346. Mr. *Warburton.*] You make no report then of the quantity of platinum contained in gold?—Not in the ordinary way, unless asked to do it; not for the purposes of coinage at all.

347. Mr. *Herries.*] You merely report the quantity of gold contained in the ingot?—Yes; we are called upon to determine the quantity of gold, or relative proportions of gold and silver.

348. How nearly does your present mode of reporting by the fraction of an eighth instead of a quarter approach to the fractions according to which the French mint report?—It is nearly the same.

349. Mr. *Hume.*] What is charged by you for the assay of gold to a merchant —At this time, 4*s.*

350. Every assay is of an ingot of 15 lbs.?—It should be, but the ingots vary from 15 lbs. to 20 lbs.; it does not correspond with the 5*s.* described in the printed returns of the House of Commons; at the time I was appointed to the King's assay office I reduced it from 5*s.* to 4*s.*

351. Does not it appear from the return made to the House, a regular charge had been made for 15 years of 5*s.*?—Yes, and I reduced it to 4*s.* for those I call private assays, having no reference to coinage; private assays which come to the King's assay office, and go away again.

352. There are two kinds of private assays?—There are those which have no reference to coinage, and others which are made by me in conjunction with the master's assayer with reference to coinage; the charge for the latter has never been

Mr. *Henry Bingley.*

21 April 1837.

been altered; it has been, as long as I recollect, 5*s.*; I have reduced those that are unconnected with the Mint to 4*s.*

353. How many assays do you take of every ingot sent in?—Two; I assay everything doubly.

354. Do you charge 4*s.* for each of those, or only 4*s.* for the two assays?—Four shillings for the two.

355. For accuracy of the assay you make two?—Yes; if we were merely to make one, it might, in the course of the operation, being subject to fallacy, lead us to a wrong report, if we did not support it by a second.

356. Mr. *Warburton.*] Are they both by the same process; that of quartation?—Yes; they are both tried similarly.

357. Mr. *Hume.*] When was the charge for the gold assay raised to 5*s.*?—It was raised at the time my father was called before the Committee on Coin, on that very account; that was the cause of his being examined, in consequence of his having raised the charge, to the best of my recollection, from 3*s.* to 5*s.*

358. In what year was that?—In the year 1814, to the best of my recollection.

359. Are you able to state whether that rise was reported to the board?—I should say, not; because at the time those assays were as much considered private as the engravers' work.

360. What do you charge now for an assay of silver?—Half-a-crown.

361. When was that raised from 1*s.* 3*d.*?—It was never 1*s.* 3*d.* to my recollection. Going back to my father's time, the gold assay was raised from 3*s.* to 5*s.*, the silver was raised from 1*s.* 6*d.* to 2*s.* 6*d.*

362. What is it now?—Half-a-crown.

363. It has never been higher?—It has never been higher to my recollection.

364. You made no reduction in that?—No.

365. You have stated, that in those assays you use the materials of Government; have you ever made an estimate of what those materials amount to in any one day, or for any given period?—No, I never have.

366. How many assays have you ever done in a day?—I should say of gold assays, the very most, to the best of my recollection, have been 80; but that has been an extreme case; it is very unusual, and I do not include the preparation necessary.

367. You could do it?—Yes, for a certain portion of time; not for a long continuance.

368. In your time have you never done more than 80?—To the best of my recollection, I never have.

369. How many do you know of having been done in one day in the Mint?—In addition to those 80 there may have been some assays of silver in addition.

370. Taking the amount received for 80 gold assays, can you state what the expense of the materials in trying these assays, charcoal, cuples, muffles, glass, lead and water-silver would amount to for those 80 assays?—No, I cannot for one day, in that sort of way.

371. What would be the expense of the materials for 100 assays?—The whole expense of the office materials by the year is ascertained and ascertainable from the Mint accounts of disbursements; so far as applied to office materials in the course of 12 months, I have found it to average 88*l.*; including everything but the charcoal acids, and water-silver.

372. Will you look at that account now shown to you of materials used for making 80 gold assays; can you furnish an account of the actual expense of materials for 100 assays, for instance?—I should only say, that if a person can calculate the value of materials for 100 assays in that sort of abstracted way, I should feel myself perfectly unable to do it, or to give an opinion upon it. I can tell the expense of materials for a year; but I cannot offer an opinion upon the materials for one day; I do not see how any dependence could be placed upon that.

373. Mr. *Warburton.*] Do you mean, that with your experience, if required to state what quantity of materials and utensils were required for making 100 assays, you would not be able to make a calculation?—I could only ground the calculations on the number of assays made in the course of a twelvemonth, and the expense of materials in the course of that time.

374. Have you made a return of the number of assays made in the whole period

period of 12 months, and the expense of materials and utensils?—It has been done for the last 15 years.

375. Does the account include all the assays made, private and public?—The whole of the private, but not the whole of the public assays. The pyxes and separate coins are not included, and the total expense incurred in the King's assay office in that time.

376. Do you know what are the charges made by private assayers?—I know they are a good deal less than those charged at the Mint, but I do not know what they are.

377. Inasmuch as Mr. Johnson has to provide his own materials, and you are provided with materials by the public, what reason can you give why the charges for assaying made at the Mint should exceed those made by private assayers?—I can give this reason, that if we were to lower our charges the King's assay office would have more business than could be got through; it was my father's desire to restrict this by the charges.

378. Do you state, that one of the reasons that induced your father and yourself to make those charges higher than those of the private assayers, was rather to diminish the quantity of business to be transacted at the Mint?—Possibly; and it is a reason why the assays should not be charged lower.

379. Mr. *Hume.*] In speaking of the expense, do you not know that the assayers generally in London make a double gold assay for 2 *s.*, exactly half the amount you now charge?—I dare say that is correct.

380. Mr. *Warburton.*] They have to provide their own materials?—Yes; but considering, as we always have at the Mint, that the assays were strictly private, the King's assayer has always thought himself at liberty to make what charge he pleased; it is not always that the King's assayer has made the private assay; there has been an assayer, who was perfectly satisfied with his salary, and would not make a private assay for any one.

381. *Chairman.*] You have stated that there was formerly at the Mint an officer holding the situation of King's assayer, who refused to make those private assays; that answer would seem to prove that the present practice of obliging the public to resort to the King's assayer for these private assays before they bring bullion to the Mint for coinage is one of modern introduction?—The health of that King's assayer was not equal to making private assays, and he declined it, and confined himself to his official duties; the assays were made partly by the master's assayer.

382. What was the name of that assayer?—Mr. Lucas.

383. Was he the assayer before your father?—Yes, not his immediate predecessor.

384. Do you mean to say that at that time the master assayer made those private assays instead of the King's assayer?—Yes; he undertook them voluntarily. I wish to be understood, in speaking of private assays, as speaking of those having no reference to coinage.

385. It has been stated to the Committee that, under the present Mint system, it is considered necessary, for the safety and convenience of the Mint operations, that all gold bullion brought into the Mint should receive what is called a previous private assay of the King's assayer; are the Committee to understand, from what you have now stated of the difference that existed in this respect when Mr. Lucas was King's assayer, that master assayer was at that time substituted in his place for that duty?—The only fact I am in possession of is the health of the King's assayer not being such as to allow of his making those private assays, and I mention it to show that he has either done it or laid it aside at his option.

386. Are the Committee to understand that, in your opinion, it would be safe and convenient for the Mint to do away with this exclusive privilege the King's assayer has, and to allow gold to be brought to the Mint on the assay of any respectable private assayer?—If I were to allow that, it would be in the face of my own report. I have said, that the perfect accuracy, which is the ultimate object of all our consultations, would be diminished if we were to depart from the custom now adopted; at the same time, I do not look upon the custom as compulsory upon the King's assayer, and that his health must be in a state to fulfil that duty; but it is a practice highly favourable to the Mint, and on which the present practice of the master's assay office is founded; he is confirmed in his assay because the King's assay-master has made a previous double examination.

Mr. *Henry Bingley.*

21 April 1837.

Before the time alluded to I cannot tell what was done, but, in all probability, the King's assay-master examined it previously.

387. Would it be the same if the master's assay-master undertook it?—Certainly not; for then there would be only one report, instead of two.

388. You look upon it as indispensable to the right performance of the public service, that the King's assayer should undertake this duty, and the public should be obliged to resort to him alone for the performance of it?—Perhaps I can hardly say it is indispensable; for I have alluded to a time in which that practice did not exist; but I think that the accuracy of the coin is very much promoted, and official despatch also promoted by the system.

389. Mr. *Warburton.*] Why is that more promoted by having another officer, namely, the King's assayer, to make the first assay, than by requiring the master assayer to make two assays, or, if that was not deemed sufficient security, to make three?—In the first place, the accuracy and the dispatch also is promoted, inasmuch as having appended a report of the King's assayer on one end of the ingot, the master assayer tries it at the other; the consequence is, both ends of the ingot have been tried, and he is able to come to me, and to examine whether his reports of the one end correspond with mine of the other end; and by that means the ingot has undergone a more effectual examination than if one alone examined it.

390. *Chairman.*] Do you conceive there would be an objection to doing away with the necessity of having a previous assay on the part of the King's assayer, and to substituting for that an additional examination by the master's assayer when the bullion is imported, making that a part of the official duty?—This would be the next best thing which can be done; but I think it would be better the King's assayer should try it at one end of the ingot, and the master's assayer at the other; knowing the delicacy of the operation in the best of circumstances, it is better than one doing it; if I am asked whether it could not be done without, I would be candid enough to say it could, but not nearly so accurately.

391. Why would not the operation be equally accurate, and the public equally secure, if this additional examination were made by the King's assayer after the bullion had been brought to the Mint?—That is what is now done, if the ingot comes to the Mint without the report of the King's assayer upon it.

392. Mr. *Hume.*] Is it not the practice, when ingots are sent in to be coined, to lock them up until the assay shall be made and compared with the previous report of the King's assay-master?—The bullion is locked up in the stronghold, and nothing done until the report of the master's assay-master upon it.

393. Is not that report compared with the report of the King's assay-master previously given?—The report of the King's assay-master accompanies those ingots, and is given to the master's assay-master.

394. Might not the assay be made at the time of bringing the bullion into the Mint while it lies in the stronghold, and thus the master's assay-master make a double assay?—He does sometimes, but it is hardly ever necessary, because it has generally been previously done.

395. *Chairman.*] Supposing this additional examination by the King's assay-master to be performed as a part of his public duty, without charging any fee to the public, would that not obviate the objections that have been raised against the present system?—I may state, in reply to that, that it would be impossible, were such cases frequently to arise, for the King's assayer to perform his check-duties, but nine-tenths of the assays have been done, perhaps, years before they come to the Mint, and in times of comparative leisure; therefore he is not called upon, except in rare cases, to examine ingots at the same time as the master's assay-master is examining them, for at that time he is engaged in his official duty of examining gold and silver, the pyxes, and so on; but having been examined in times of comparative leisure, there is his report; and in tracing back for the last 10 years, these rare cases referred to have hardly ever occurred.

396. Mr. *Warburton.*] How far do you conduct the assays by your own hand?—All the most important parts of the operation.

397. How is it with the master's assay-master?—The same. I have a probationer whom I am bound to instruct, and who is constantly present receiving instruction. I have also two firemen, who take a great portion of the labour; the King's assay-master has, however, examined most assays long before they were brought to the Mint to be coined, and if any regulation were made that

he

he should be obliged to examine them when they came into the Mint, he would have as much as the master's assay-master's duties to do, while he had his own check duties to do.

398. Mr. *Clay.*] Why should it not be possible to perform those duties as a public officer, they being now performed, according to your statement, and done with your own hand?—The Bank being the chief purchasers of gold, and the chief quantity of gold being coined for the Bank, the assays are made for the Bank long before they think of sending those ingots into the Mint, and almost all the gold being purchased by the Bank, the Bank probably deposit the ingots in their vaults, after the assay, for two or three years; perhaps they export them, perhaps they send them to the Mint to be coined; but this has been done frequently two or three years before they came to the Mint to be coined.

399. Mr. *Herries.*] If it were important to make assays of the ingots imported at the time of importation in conjunction with the master assayer, that would occasion a pressure of business which would prevent the discharge of your official duties?—Yes; I do not think any person could attend to it if such a system of coinage were introduced as made such cases frequent.

400. Mr. *Warburton.*] What security is there to the public that the report of the King's assay-master, produced with an ingot, belongs to the ingot which is produced?—That is a thing over which the assay-master has not the least control; he sees nothing of the ingot, and only attaches his report to the piece of metal sent to him; the attaching that to the report is done by the bullion-broker, or the parties out of the Mint.

401. Therefore, there being a certain chance that the report produced may not belong to the ingot produced, would not the Government, in fact, have a greater security if for every ingot produced at the Mint to be coined, a double assay were required to be conducted at the time, within the walls of the Mint; since in that case it would be perfectly certain that the two assays required did correspond to the ingot produced?—I may answer that by saying, that on the ingots which come into the Mint, and where a subsequent examination is made by the master's assayer, being already in the Mint, if his report and mine agree, they must be from that identical ingot, and there cannot be any possibility of mistake; by the present system part of the King's assay-master's duty is the identification of the several ingots; they are before him in the Mint when they are cut off.

402. Supposing that a report has been made on an ingot a year ago, and that report is produced with the ingot, if the master's assayer makes an assay of an ingot so brought to the Mint for a second assay, and that second assay does not agree with the former assay made by the King's assayer, does not that disagreement between the two render a third assay necessary?—We hardly ever meet with such a case.

403. Mr. *Clay.*] It has been stated that you charge 4 *s.* for the same assay for which 2 *s.* is charged by other assayers; how do you account for persons coming to you under those circumstances?—Private assaying has always been practised more or less within the Mint; there was a time when the late King's assayer had almost the whole private business in London. They come still, I suppose, because they prefer the Mint assay to any other; it is not compulsory, because a great portion of our business is silver-parting assays, where the charge bears the same rate of proportion to the charges out of the Mint as that on the gold does. There is no reference to coin there; they come to the Mint, I suppose, because they have confidence in the skill and integrity of the parties.

404. Mr. *Hume.*] Do you not know that the Bank will not buy gold without your assay?—Yes.

405. Then if a person wishes to sell to the Bank, is he not obliged to come to you?—He is, but it is generally a matter of choice, not of obligation; we have been requested by Messrs. Sharps and others to make assays for them at any price.

406. Mr. *T. Baring.*] Does the Bank buy silver without your assay?—I believe not; but I am not quite certain; I think, as a general rule, they do not.

407. Mr. *Clay.*] Do you mean to state that you conceive your assay to be of greater accuracy, and that therefore the public have greater confidence in your assay than in that of other assayers?—I am perhaps not entitled to give an opinion, but would refer you to the number of assays which come to the Mint, and the accuracy of the coin.

408. Do you not think there is sufficient reason for their coming to you in preference to others, from the circumstance, that the Bank will buy by no other

Mr. *Henry Bingley*.

21 April 1837.

assay?—That is a reason, no doubt, for their coming, in addition to other reasons of preference, but I would rather not express any opinion about any other assayer, or draw any comparison between the Mint and those out of it. Those that send to the Mint, I presume, prefer the Mint assay. Private assaying at the Mint is one of the oldest practices in London.

409. Mr. *Hume*.] You mentioned two firemen you employ; are those firemen warrant-officers belonging to the establishment of the Mint, or are they merely weekly servants?—One belongs to the establishment, the other is a weekly servant; the first fireman belongs to the establishment.

410. Are they appointed by you, or by the board?—Their appointment is by the Master of the Mint, at the recommendation, I think, of the King's assay-master.

411. You have mentioned that the materials you use are supplied by the public; are any of the men paid by the public also employed by you?—Yes.

412. Why are the individuals employed by you paid by the public?—The whole office is employed in these operations.

413. You have not only the materials, but the public servants, paid by the public, to assist you in your private assays?—Yes.

414. Can you state how much would be paid for the labour of the men employed on 80 or 100 assays?—I cannot.

415. With respect to this return laid before Parliament last year, signed by you, from what documents did you make it out?—It was from the private books in the King's assay office; my father's books.

416. There appear to have been 64,551 private gold assays, amounting, at the price mentioned, to 16,137 *l.*, or an annual average of 1,075 *l.*; are the Committee to understand that that was a profit arising to your father annually for the 15 years, in addition to the 900*l.* salary he received?—Whatever is there, was in addition to his salary.

417. There appear to be 73,709*l.* silver assays, and that he received for those, in the 15 years, 25,251*l.*?—If it is so stated there, that is correct.

418. There is no deduction to be made, that you are aware of, from that, as the profit to the King's assay-master?—Except what the King's assay-master gives to those in his own office; nothing more.

419. Is he in the habit of giving privately to those who assist him?—Yes.

420. To what extent is the amount?—I am not prepared to state that; it is in proportion to their time and labour.

421. What number of persons are there?—There are only myself and the probationer, and the two firemen.

422. Does not the probationer pay you for being taught?—No.

423. Are you sure no probationer has paid a large sum for being taught?—No, by no means; he is on the establishment of the Mint.

424. It appears from the report before the Committee, signed by you, that 4,058 *l.* had been paid for water-silver?—In the accounts of the Mint that appears as the whole quantity paid by the Mint office, and supplied to the two assay-offices during 15 years.

425. Do not Brown and Brind principally supply the water-silver?—Yes, altogether, I think.

426. That is supplied at the expense of the Mint?—Yes.

427. That is used for the private assays?—Yes.

428. Can you say how much in every pound is recovered after the operation?—I stated on the note that there is a loss, I think, of 25 per cent. upon it.

429. Is it on your own knowledge that there is a loss of 25 per cent. upon it?—I infer that from the quantity supplied to the King's assay office, and the quantity of profit derived from it; the difference must be the loss.

430. What is done with that which is recovered; is it not sold to Brown and Brind also?—Clearly.

431. Do you recollect when the ingots assayed at the Mint were 30, 40, 50, and 60 pounds' weight, at the same charge?—No, I do not.

432. Do you recollect when the weight of the ingot for assay was fixed on the average at 15 lbs.?—I cannot state the exact time.

433. Are you aware that assayers generally, such as the Johnsons and others, who make the gold assay, make charge whether it is one pound or sixty?—I am not at all aware of their practice; but we do not know the weight of the ingots of which we make the assay, when the assay piece is sent us; we have no means of knowing whether it is cut off an ingot of 15 pounds or 60 pounds.

444. Would you charge no more for an ingot of 60 pounds than of 15?—The charge

charge has no reference to weight; we have no means of knowing the weight of the ingot.

435. When you assay, you make a report of the assay of every ingot?—Yes.

436. Do you make any report to any public officer?—No, not of our private assays; the Mint officially knows nothing of them.

437. Are either of those the forms you give (*papers being shown to the Witness*)?—That is one of my reports, and that is the master assayer's report.

438. This report, dated the 26th of November 1834, is stated to be bettered 15½ pennyweight; that is, than the standard?—Yes.

439. Is that the actual value, or is this paper a report made after consulting the master's assay-master?—Long before; I never consulted the master's assay-master in my life on such a subject.

440. Are you not in the habit of meeting the master's assay-master on all such reports?—Never; he knows no more what is in the King's assay office than any other person in the Mint.

441. What was the difference between the real value and that in your report?—I could not tell unless I referred to my book.) By what I see, it might be a silver ingot, which was exactly better 15½; or it might be a silver ingot, which was a trifle more.

442. This would be the nearest fraction?—Yes; if it does not amount to 16; I am compelled to call it 15½, for we have no medium between a half.

443. The Committee are to understand, that you and Mr. Beckwith, the master's assayer, have no understanding whatever as to the report to be made of the ingots?—Not of a private assay; if a private assay is made by the King's assayer, without any reference to Mr. Beckwith, when he examines it for coinage he will then see how nearly the two assays agree together.

444. It is after the bullion comes in for coinage you compare?—Always, if we compare at all; but in silver ingots, we do not compare further than his having my previous report, but in gold we compare the two reports with the fractions.

445. On comparing that, the plus is made up?—Yes.

446. The difference of gold goes to the profit of the importer?—Yes; it appeared to be thought that the merchant is a loser; but the merchant is no loser, though the Bank is a gainer.

447. It has been stated, that the Bank gain on the coinage of gold on the report made by your office; will you explain how that takes place?—The Bank gain because they have bought on my report, and because Mr. Beckwith gives them more fine gold in almost every ingot than my report does; but the merchants who sold have not been losers, although the Bank gains, because if those ingots had been sold half a dozen times before the Bank got them it would have been at the same report; but it is when the ingot is sent to the Mint to be coined there is then an advantage, by dispersing it over the whole, which cannot be gained in a mercantile transaction.

448. Supposing the case of a company importing gold for sale in London, will not they be the losers if they send it to your office, and get a report, that report purporting to be less than the actual contents of gold?—Any possessor of bullion, if he should be the original person that gets it in the first instance from Brazils, if he has it determined by any assayer in England, would get the full value of it short of the fraction.

449. Are the Committee to understand that the rule observed by you in reference to the report is the same as that observed by others?—Yes, they must abide by the same rule that we adopt in that respect.

450. Mr. *Herries.*] Do the other assayers report by the same rule as you do?—They follow our custom; at the Mint we have introduced the custom, and they have followed it.

451. The reports in the foreign mints are liable to the same objection, if it may be so called, of not reporting to mathematical accuracy?—Yes, it must be the same, extending only to certain fractions, between which there is a certain quantity of fine gold and silver which cannot be taken account of till it comes to the Mint to be coined.

452. The sub-division of your fractional account will be nearly the same as that of the French mint?—In my idea it is precisely the same.

453. You have been asked, why your charge for a gold assay should be higher than that of any other assayer, though supplied with materials at the public expense; will you explain how that takes place?—I meant to say, that if it is a source of complaint that we use the office materials, if we were to lower our charge

Mr. *Henry Bingley.*
21 April 1837.

the expense of office materials would be increased, for we should have more private assays, if we were to charge less, than we do now; that would increase the source of complaint with respect to the use of office materials.

454. That answer is given under the idea that you are to continue to be supplied with materials at the public expense?—I only mean to say that if we were to lower our charges, that would tend to increase the public expense; and if we were asked why we charged more, I should say, that we charge what we consider a remuneration for our time and trouble; we never have been governed by the charges of others.

Martis, 25° die Aprilis, 1837.

MEMBERS PRESENT.

Right Hon. Henry Labouchere.	Mr. Ridley Colborne.
Mr. Hume.	Mr. T. Baring.
Mr. Wall.	Mr. Herries.
Lord Lowther.	Mr. Goulburn.
Mr. Pattison.	Sir Thomas Fremantle.
Mr. Clay.	

THE RIGHT HON. HENRY LABOUCHERE, IN THE CHAIR.

Mr. *William Henry Barton*, called in; and Examined.

Mr. *W. H. Barton.*
25 April 1837.

455. *Chairman.*] WHAT situation do you fill at the Royal Mint?—My appointment is as deputy-comptroller, but I am virtually the comptroller.

456. The office of comptroller of the Mint is a sinecure office held by Mr. Tekell, who never attends?—Yes; it is now regulated by Act of Parliament.

457. It will be abolished at his death?—Yes; the salary will then cease.

458. How long have you filled that situation?—The 5th of July 1830 is the date of my appointment.

459. Have the goodness to state to the Committee the nature of the duties you perform?—The proper duties of the comptroller are; *First*, to enter and record in a journal or ledger-book all such bullion of gold and silver as shall, from time to time, be brought into the Mint, which entry shall comprehend the weight as declared by the weigher and teller; the fineness is reported by the master's assayer, and the value of the said bullion, the parties' names that brought it, and what days. *Secondly*, to deposit at the office of receipt, in the stronghold, of which he shall possess a key (in conjunction with the deputy-master, and worker, and King's clerk), the bullion after it shall have been received, and the assays and weight thereof made, reported and entered, there to remain until it is required to be delivered by the deputy-master for the meltings. *Thirdly*, in conjunction with the King's clerk, to take an account of the ingots delivered by the deputy-master out of the stronghold for the meltings, according to the entry made by the master's first clerk and melter in the pot-book, and to examine the said book as to the calculations of the quantities and fineness of all manner of gold and silver and alloy combined, and put to each pot respectively for the meltings, and to subscribe the same with his initials. *Fourthly*, to take also an account and oversee the weighing of the bars and scissel passed through the office between the melter and moneyers, for which their respective receipts shall be entered in the pot-book. *Fifthly*, to keep an account of all the deliveries of the monies, and to ascertain, at the end of every month or oftener, the balances due by the master to the several importers, and also the balances in the hands of the moneyers and melter, and agree the same with the deputy-master, who is to charge the said moneyers and melter therewith accordingly. *Sixthly*, in conjunction with the other principal officers, to oversee the assaying, melting, rolling, sizing and making the monies, at all times and in all places, and endeavour and procure that the said monies, and every of them, shall be made and perfected according to the true intent of the Indenture. *Seventhly*, to see and procure, with the King's assayer and weigher and teller, that the balances and weights be put to point, from time to time, when they shall need it, so that no default be found to the hurt of His Majesty or his people. *Eighthly*, to attend the proof and trial called pyxing of the monies, before their deliverance to the importer, and to try the weight of some of the pieces in each journey-weight, singly, as a check, that there may be no great variation from the true weight; and also to retain

retain two pieces from each journey-weight, one to be delivered to the King's assayer for his assay, and the other to be locked in the pyx box, to be tried before the King or his Council; to docket the parcel containing the pieces for the pyx, and, with the other officers, enseal the same, and lock it in the pyx box. *Ninthly*, to deliver upon oath, before one of the Barons of the Exchequer, a roll which shall be called a comptroller's roll, containing an account of all the gold and silver monies coined monthly in the said Mint. *Tenthly*, in conjunction with the deputy-master, to inspect and examine the accounts of the clerk of the rons as to the dies supplied to the engraver and moneyers, and that the faulty ones be destroyed. *Eleventh*, to attend to the duties prescribed by the Act of 14 Geo. 3, respecting the standard money weights. Since the above regulations were framed the additional responsibility of countersigning all the drafts drawn by the deputy-master on the master's cash and exchequer credit accounts at the Bank of England, has been imposed on the comptroller; and also an additional duty of superintending the packing and delivering of all coin and dollars for the service of the commissariat branch of the Treasury.

460. When was that alteration made?—I think about two years since. The comptroller also performs the duties of the comptroller and King's clerk of the copper coinage. *First*, his duty is to receive and take an account of all the copper brought into the Mint for coinage. *Secondly*, to make the proof or trial called pyxing of the monies before they are delivered to the public, by taking one or more pounds weight out of each bag of coin, counting and weighing the same, so as to ascertain that the monies are properly made, and within the limit of one-fortieth part in the pound, avoirdupois. *Thirdly*, to superintend the telling and packing of the monies into bags or boxes, containing such value as may be directed. *Fourthly*, to deposit all coined monies in the strongholds of the copper-office, of which he holds the key. *Fifthly*, to receive the money for all copper coin delivered to the public, and pay the same, either into the hands of the deputy master, or to the Master's cash account, at the Bank of England. *Sixthly*, to make up an annual public account of all copper received and coined, also of all monies received at the Mint for copper coin issued to the public.

461. What is the salary attached to your office?—Six hundred pounds a year, subject to a deduction of five per cent. for the superannuation fund.

462. Have you any fees or other emoluments of any other kind?—Fees on what are termed private coinages.

463. Are you able to state to the Committee, to what they amount on an average of years?—On the average of years, I find they have amounted to 5 *l.* 16 *s.* 7 *d.*

464. Mr. *Hume.*] Will you state how that fee arises?—The sum allotted for the officers of the Mint is 2 *d.* per pound weight; that is divided among the officers *pro ratâ.*

465. What officers?—The whole of the establishment, from the deputy-master downwards; not including the moneyers and melter, but all the other officers.

466. Mr. *Wall.*] Do you mean to say that 5 *l.* 16 *s.* 7 *d.* is the allowance equally to every officer of the establishment, or that some will receive more than the others?—They receive more or less, according to the station they hold. I receive as a board-officer; the board-officers have a larger allowance than other officers.

467. Mr. *Hume.*] Under what rule or regulation is that division made?—I am unable to answer that question; I cannot tax my memory with that; I know it is the practice.

468. Have you a written or printed rule by which the division is made?—I have never inquired; I have not seen either a written or printed rule.

469. Who makes the division, and by what rule is it made?—There was an alteration in the allotment of fees, which was drawn up by the deputy-master, and submitted to the Master of the Mint for his approval.

470. What was the date of that revision and alteration?—To the best of my recollection, it must have been some time in the year 1834; I cannot bear the precise date in my mind.

471. Mr. *Wall.*] Are you to be understood to say, that all the board-officers receive the same allowance?—They receive the same according to the last allotment; before that it was different.

472. *Chairman.*] Have you any other emoluments from the situation you hold?—There is a small annual allowance of stationery given. I draw it in kind from the Stationery-office, to the amount of 3 *l.*, and I have a residence.

Mr. *W. H. Barton.*

25 April 1837.

473. Mr. *Wall.*] Have you coals and candles?—No, I have no allowance beyond the stationery.

474. Lord *Lowther.*] Have you any furniture for your house?—No.

475. Mr. *Ridley Colborne.*] By whom were the instructions you read drawn up?—They are the instructions of the Mint Board; they were drawn up, I believe, by Lord Maryborough or the deputy-master in his Lordship's time; they are considered to be sanctioned by him; they are extracted from the Mint Indenture, which is the law of the Mint.

476. *Chairman.*] In the report which you submitted to the Master of the Mint, and which has been laid before the Committee, you refer to a difference of opinion which had existed between you and the melter upon the subject of the alloy added to the scissel-pots; have the goodness to state to the Committee what are your views upon that subject?—It is hardly necessary for me to repeat what I have written in that report; I have no reason to alter my views, which are fully stated there; I should only be troubling the Committee with a repetition.

477. Mr. *Hume.*] In your report, dated November 1836, you state that by the minutes therein noted, you consider the melter ought no longer to receive the benefit of the excess of alloy in the stopped pots by their being mixed with scissel; do you continue of that opinion still?—I do.

478. Has the melter been allowed to receive the benefit of that excess of alloy since that time?—Small quantities of alloy have been added from time to time since then, but whether the melter is to receive the benefit of that addition or not, is to be determined.

479. Before the date of your report, had he always received the benefit of that excess of alloy?—He had, certainly.

480. Has any proceeding taken place since the 7th May 1836, when a minute was entered by Lord Ashburton, deciding in favour of the melter?— No proceedings had taken place until the drawing up of the report which has been alluded to.

481. Have any new regulations been made since Lord Ashburton's minute of 7th May 1836?—None.

482. Is it not always necessary to add to the scissel-pots some alloy?—In order to keep the metal, both of gold and silver, near to the standard, the King's assay master has always ordered from time to time small quantities of coppers to be added to the scissel-pots of either metal.

483. Can you, from your examination, state to what extent that addition has been on the average of any number of pots?—I can state to the Committee what I have an immediate knowledge of during the time since my appointment. In 1835, there were, during the whole year, 28 lbs. 3 oz. of copper added to the silver scissel-pots, being, in value, equal to 93 *l.* 4 *s.* 6 *d.*; in 1836, 65 lbs. 8 oz. 10 dwts. were added, being equal in value to 236 *l.* 16*s.* 9*d.*; also, in 1836, the gold scissel pots were alloyed on one occasion, and the weight of alloy added, was 1 lb. 10 oz. 17 dwts. 12 grs., equal in value to 89 *l.* 1 *s.* 4*d.*

484. Has all that additional value been received by the melter?—It has.

485. Agreeably to the usage of the Mint, as there is always alloy allowed to the scissel-pots, he must have received profit, according to the quantity of coinage in the Mint, to a very large extent?—Of course, where the coinages are very extensive, the necessity for adding this alloy occurs more frequently; it rests with the King's assay-master, as he thinks the metal requires it.

486. Of 100 lbs. of gold, how much becomes scissel gold?—Of the good bars delivered from the melter, the moneyers are bound to make 7-12ths into current money, so that 5-12ths is considered as the scissel; but there is a deduction to be made from the quantity of bars delivered from the melter to the moneyers, for what they term the melter's ends, which is the shrinkage of the bar from the casting, that cannot be made into coin; it is considered to belong to the melter; the moneyers make their coin out of the sound bars.

487. Are the Committee to understand that the melter has the profit from the excess of alloy on 5-12 ths of the gold for coinage?—Not at all, for, as I observed just now, it is variable; there is not a constant addition of alloy to the scissel; it is according as the King's assayer discovers the work to run better than the standard.

488. Have you not given an account of 1835 and 1836 as the result of those two years?—Yes.

489. Have you any reason to believe that in preceding years the result would have been different?—Certainly; no two years correspond.

490. You did not state those two years as the average?—No, but as matter of fact.

491. Is there not a regular account kept of the quantity of alloy added to the scissel pots in every year?—Yes, there is, by the surveyor of the meltings.

492. Can an account be furnished of the amount of alloy added to all the coinage from 1816 downwards?—Certainly.

493. Are the Committee to understand that during the melting of the gold a quantity of the alloy is destroyed, and, consequently, the gold not being destroyed, you have to add that quantity which has been destroyed in the furnace?—Yes.

494. Lord *Lowther*.] Does not some gold come to you of a finer quality than other?—The gold varies in fineness very much.

495. Mr. *Hume*.] How does it become requisite that alloy should be added to scissel gold, when the standard had been fixed by a previous assay?—It is only to be accounted for by the metal refining during the operation of the coinage which is the waste in melting.

496. *Chairman*.] The difference between you and the King's assayer, to which you refer in your report, relates to the supply of what is called water-silver?—There had been no difference between the King's assay-master and myself on this point; the first occasion of this question being mooted was in that report.

497. Have you, in that report, expressed an opinion at variance with the present practice of allowing water-silver as a perquisite to the King's assayer?—I have stated in the report that I thought the supply of water-silver required some regulation, and I have stated my reasons for making the suggestion.

498. You state that the water-silver allowed as a perquisite to the King's assayer was supposed to amount to about 25 *l.* a year; have you got here the instrument upon the face of which that fact appears?—I have not; but I believe the Committee have it before them. It is the King's Order in Council; the Report of Lord Maryborough, which was made an Order in Council.

499. Are these the words to which you refer when speaking of the King's assayer, "he has a profit on water-silver of about 25 *l.* per annum, which should be continued; it is the silver bullion recovered from the acid in which it has been used for assaying gold;" those words appearing as a marginal note to the schedule of the establishment, which is appended to Lord Maryborough's Report on the establishment of the Mint in 1815?—They are.

500. You state that in one year the profit derived by the King's assayer from water-silver was as much as 700 *l.*?—I do not mean to imply that the profit was as much as 700 *l.*, but that the amount paid for the water-silver was about 700 *l.*

501. Of that 700 *l.*, how much do you conceive may have been profit?—Really I am unable to answer that question precisely, because I am not an assayer.

502. Speaking generally, should you say one-half or two-thirds, or what proportion?—I have no immediate knowledge enabling me to state exactly; certainly a very large proportion of it is profit.

503. To what do you attribute this source of profit having so greatly exceeded the amount at which it was calculated when this note was made by Lord Maryborough in 1815?—At the time I made that report I was under the impression that it was to be attributed to the great increase of the business of the Mint; the very large quantities of gold coined of late years, which required a great quantity of water-silver.

504. Mr. *Goulburn*.] Lord Maryborough's Report was made during the Bank restriction?—Yes, in the year 1815.

505. Mr. *Hume*.] Was the year 1821 the year in which you allude to the large supply of water-silver?—Yes.

506. In your report, you state that you do not consider yourself justified in continuing to pass the bills for that water-silver; have you done so since that time?—I have passed accounts since that time, certainly, with the understanding that the matter would be brought under consideration.

507. Has anything been decided respecting water-silver supplied to the Mint, as to whose profit that should be?—Nothing.

508. You state, that on the appointment of the present King's assayer, you intimated to him the intention of bringing that subject before the master; have you done so?—I did so in the report. I stated my intention on the occasion of a requisition coming for water-silver, I called his attention to it, and observed to him that, in passing the requisition for water-silver, I did not consider myself

Mr. *W. H. Barton.*

25 April 1837.

pledged to the principle; that I should submit the question to the Master of the Mint; I signed the requisition, not to impede the work of the coinage.

509. The notice was given on his appointment?—On the first occasion of his requiring water-silver, not immediately on his appointment.

510. You have suggested a variety of regulations for the future plan of coinage, and some detail in the process; has anything been done towards those regulations, or do you continue as you did at the date of that report?—Nothing has been done; we continue as we did at the date of the report.

511. *Chairman.*] The report which has been alluded to in the previous question, was one you were directed to make for the express purpose of its being laid before this Committee for their information, was it not?—I was called upon to make a report, by letter, from the deputy-master, dated 26th August 1836; it alluded to a general examination of the establishment by you.

512. You state in your report, that, as one of the check-officers, you did find yourself placed in considerable difficulty by the terms of the agreement which now subsists between the company of moneyers and the Master of the Mint, with respect to the keeping the machinery in order?—Yes; the difficulty arises from the proper construction that is to be put upon the words of the agreement which is entered into by the Master of Mint with the company of moneyers.

513. Do you think it desirable that agreement should be reviewed, and the obligations of the Master of the Mint and the company of moneyers made more distinct than they are at present?—Decidedly.

514. Will you state to the Committee some instances of cases in which those difficulties have arisen?—The difficulty, referring particularly to the workmen, the Government artificers, as they are called; the words of the agreement are, that they shall be paid by the company of moneyers during *the time that the Mint is at work*, and for a certain period after that time, to be decided by the superintendent of machinery, that the moneyers may leave the machinery in a fit state to recommence the coinage. There are also other difficulties: what, with respect to the machinery, is to be considered in the nature of a repair, and what is to be considered as new machinery; the repairs being done at the expense of the moneyers, and the new machinery being paid for by the public.

515. In case of any disagreement between the officers of the Mint and the company of moneyers on any of those points, is there any provision made for a decision between them?—The only provision is by enforcing the agreement; that must be decided as a point of law; it must be decided by lawyers.

516. There is no peremptory power given to the Master of the Mint, or any other officer, to decide those points?—I should apprehend not; I should think the master must be bound by his agreement as well as the moneyers, and that it must be referred to the law-officers.

517. You mean that it would become the subject of a lawsuit, in case both parties persisted in their view of the subject?—On a recent occasion a reference was made by the Master and the board to the Mint solicitor; he, in the first instance, perused the agreement entered into between the Master and the moneyers, but without having referred to the schedule at the end of that agreement, and forming part of it; and he was, in the first instance, of opinion that the moneyers were not liable to the expense of that portion of the machinery in question, but on reconsidering his opinion, having seen the schedule, he turned round, and now he thinks the moneyers ought to pay.

518. What course was taken by the Master of the Mint in this instance?—A letter has been addressed to the company of moneyers, with the solicitor's opinion, stating that the Master and the board are of opinion they should bear the expense; the part of the machinery at issue upon this occasion is what is called the slide valve of the steam engine.

519. Did the moneyers acquiesce in that decision?—They have made no reply to it as yet.

520. In case they do not acquiesce, and the master himself should feel it his duty not to acquiesce in the view they take of the subject, what means have the parties of settling it except by going to law?—I should apprehend the Master of the Mint would find it his duty to report the matter to the Lords of the Treasury.

521. In that case have the Lords of the Treasury any power of interpreting the terms of the contract as they may think fit?—I should apprehend they would refer

refer it to the law officers of the Crown, and then the moneyers would submit probably to their opinion. Mr. W. H. Barton. 25 April 1837.

522. Must they necessarily submit?—It is a difficult matter to say; but the master has this remedy, that he can make the agreement void by giving due notice, and make fresh terms.

523. Mr. *Hume.*] Have you ever known any accident to any of the machinery during the coinage?—I have no immediate knowledge of an accident since I have been appointed, but sometimes I know that rollers have broken.

524. By whom are those repaired?—I rather think that they are repaired by the company of moneyers; but I have no precise information; there was one instance in which the Government repaired the machinery generally; that was when the Mint was burned down.

525. *Chairman.*] Do you think it desirable to revise the instrument called the Mint Indenture, and to simplify it?—It is a very old instrument; it contains many very excellent provisions; it might be revised; those provisions would be better understood by the officers of the Mint, if put in the language of the present day.

526. Do not you think it would be desirable to put some clauses of that indenture in the shape of regulations, and to confine it as much as possible to an indenture between the Master of the Mint and the moneyers, to secure the weight and fineness of the coin?—I think there are some portions of the duties of the officers, which are specified in the indenture, which might be made matter of regulation; at the same time, I think there are other duties which ought to be continued in it, that is, where the standard of the money is concerned; where the keeping up the standard is involved, I think that certainly should form part of the indenture.

527. Do you think those objects could not be equally well secured by regulations?—They would not ensure the security that they would if embodied in the indenture.

528. Do you think, if the principle of weight and fineness were put into the indenture, and the means of carrying the indenture into effect were embodied into new regulations, that would not afford equal security for the due weight and fineness of the coin?—Such an alteration would render a change in the standard subject to any caprice of the Government of the day.

529. Do you know what the practice of foreign mints is in that respect; whether the directions to the officers are in the shape of regulations, or in the shape of an instrument similar to our indenture?—I know in the French Mint it is regulated by an Act of Parliament; I may say with respect to the American Mint, the provisions for keeping up the standard and the purity of the coin are contained in an act of the legislature, similar to our indenture, in fact.

530. Are the directions to the officers, in respect of their duties, embodied in an act, or pointed out in regulations?—They are embodied in an act. I think I can speak confidently as to the American Mint, for I have had a copy of the Act sent to me lately.

531. Mr. *Hume.*] By the returns laid before Parliament, it appears that there have been bills for repairing machinery in the moneyers' department to the amount of 16,749 *l.* since the year 1814, and also expenses for machinery in other departments; will you state in what way those expenses for repairs have been incurred?—It is the duty of the superintendent of the machinery, Mr. Brande, to represent to the Master and Board, if a machine is wanted, and the order is given by the Master and Board for the machinery to be procured.

532. Is it his duty, in case any of the machinery is broken during the time the Mint is at work, to make a report accordingly?—Yes, certainly, it is his duty to report when the machinery is broken, and the cause of its being broken.

533. Is he not then the person by whom the department would be decided as to who should pay the expense, whether the moneyers or the Government?—He would be called upon to give his opinion as the superintendent of machinery, whether it was the result of fair wear and tear, or of accident.

534. Are the repairs done by your own establishment, or by machinists out of the establishment?—Some portions are done by machinists in the establishment, and some by persons out of the establishment.

535. Who has charge of the mechanics in the establishment?—The moneyers have the charge of those men, during the time that the coinage is going on, or that *the Mint is at work*; the workmen belong to them according to the term of their

Mr. *W. H. Barton.*

25 April 1837.

agreement; when the Mint ceases to be at work, they fall under the superintendence and management of the superintendent of machinery, who then has the charge of the machinery solely.

536. Here is the name of Mr. Field, as one of those employed to repair; is he the Mr. Field who is on the establishment as weigher and teller?—Yes.

537. He is also stamper of the money weights?—Yes.

538. Is he also a machinist?—He is an excellent workman; he was brought up as an astronomical instrument maker; he is employed to repair the assay beams, and the beams in the office.

539. Has he a salary on the establishment as such?—No; the regulation is, that he shall do it himself, or procure it to be done by some person who is competent to do it.

540. How are the charges for this regulated or controlled?—He makes his charge, and, if it is not considered unreasonable, it is paid.

541. Who are the judges of that?—The judges are the master and the board.

542. Do you mean the master or his deputy?—I speak of the master and his deputy as one.

543. In the year 1816, upwards of 6,000 *l.* was laid out in the moneyers' department; and in the year 1817, upwards of 6,000 *l.*; are you able to state what check or control over those expenses was exercised by the board?—Only the exercise of the judgment of the individuals who passed the accounts.

544. Who are they?—The deputy-master, the comptroller and the King's clerk; but if they have any doubts they submit the question to the board.

545. You mentioned artificers; are those employed by the moneyers on the establishment of the Mint?—They come on the establishment when the coinage ceases; while the coinage is going on they are the moneyers' workmen; when the coinage ceases, then they become the Government workmen; but the difficulty is to determine when the coinage does cease.

546. Will you state from what period the artificers become chargeable to the moneyers?—In fact, the agreement with the moneyers states that the superintendent of machinery shall be the person to decide when that takes place; he found himself in a difficulty, and referred the matter to the board; a plan was then adopted, and it was decided that the balances should be struck between the moneyers and the Mint-office every Wednesday, and if on that day the balance in their hands amounted to 50,000 *l.*, then the moneyers were to pay the men.

547. What was the date of that agreement?—About the year 1829; it was when the gold coin fund was established; that after a time was not found to work very well, and then another arrangement was made by the board between them and the company of moneyers; it is settled by that arrangement according to a scale, by dividing the annual expense of the artificers into eighths, and stepping by eighths; for instance, when the value of the coinage in a quarter shall amount to 375,000 *l.* in gold, or 187,500 *l.* in silver, the Government then, according to the last regulation, would pay five-eighths of the whole amount, which is 140 *l.* 15 *s.* 0¾ *d.*, and also five-eighths of the allowances for coals and tallow for keeping the steam-engines at work and in order; this regulation is made, supposing the coinage to amount to four millions a year; these are the data upon which it is founded, that is to say, taking the values of the gold, silver and copper coinage, and all the private coinages which take place at the same time; the total amount of these coinages is taken as the sum to be referred to in the scale. An equivalent is taken for the copper, then if the moneyers are paid for coining copper 414 *l.* 6 *s.* 8 *d.*, we determine the number of pounds of gold that sum would have coined by a rule of three proportion, saying, as 3 *s.* 6 *d.* (the price paid to the moneyers for coining sovereigns), is to one pound, so is 414 *l.* 6 *s.* 8 *d.* to 2,367 lbs., which at 3 *l.* 17 *s.* 10½ *d.* per oz. is 110,598 *l.* 1 *s.* 6 *d.*

548. That, you say, takes place when the coinage is above a certain sum; how is it when it is below that?—We have a scale commencing with 125,000 *l.* going up to 1,000,000 *l.* in the quarter.

549. *Chairman.*] Can you furnish the Committee with a copy of that minute?—Certainly.

550. Mr. *Herries.*] Does that appear to you to be a reasonable adjustment?—It is very difficult to say that; I can only state that it was considered to be an experiment at the time; it was to go on for a certain time, but Government pays rather more under this arrangement than it did on the previous one; on the

the 13 quarters previous to that arrangement, the Government paid 2,033 *l.*; and in the 13 quarters subsequent to the arrangement, they have paid 2,216 *l.*

551. Was that arrangement suggested by the board officers?—It was prepared by the board in consultation with the company of moneyers.

552. Were you a member of the board at that time?—I was; it was the 19th of June 1833.

553. You are not yet able to say whether it is practically found to be a reasonable adjustment?—It certainly is not complying strictly with the agreement which the master enters into with the moneyers, but owing to the difficulty in putting the proper construction upon the agreement, we are obliged to resort to this compromise.

554. Mr. *Hume.*] Do you consider it difficult, from the nature of the agreement and the perplexed manner in which it is drawn up?—The difficulty is in placing a proper construction upon the words of the agreement, *when the Mint is not at work.*

555. *Chairman.*] The business of the moneyers is now and then very considerable; then there is a great cessation, and there is nothing done for some time?—It is liable to great fluctuations; we are idle at this moment, and next week we may be pressed for coin.

556. Can you state generally to the Committee how many days in the year the moneyers are usually at work?—I am unable to tax my memory with the number of days, probably two months out of the year they are not; as we go on at present, and have done the last 15 years, I should think they must be at work pretty nearly all the year round.

557. Of late years, about two months in the year is about the period they are not in active work?—Probably the days they are inactive might amount to two months; perhaps not so much.

558. Mr. *Hume.*] Are the artificers on wages all the year round?—Yes, either from the moneyers or from the Government.

559. What is the rule with respect to the labourers; are they on wages all the year round?—They are retained during the time it is considered necessary to have them on the establishment; we require a great number, over and above the established porters, for handing the ingots of gold and silver, packing the coin, and various things; they are extra labourers; they are continued as long as they are wanted.

560. *Chairman.*] Those are the servants of the Mint, not of the moneyers?—Yes, they are.

561. They are paid weekly?—Yes.

562. Mr. *Hume.*] What is the rate of wages they receive?—Some receive 24 *s.* a week, some a little more; there is an instance of one who receives 3 *l.* per week; he is an assistant to the engraver.

563. The question refers to men employed as porters in packing and moving the money backwards and forwards; are there not some at 3 *s.* 6 *d.* a day?—I do not carry in my mind the amount of the sums paid to each man; but I think the amount is about 24 *s.* a week to the men who are employed occasionally by the Mint; they are taken up for a specific service, and paid constantly as long as that service is thought necessary; they are paid constantly from year's end to year's end, if their services are required so long.

564. Have you not some who have been paid all the year?—If there is a great pressure of business, we take on additional hands, but those men we have, have been found sufficient; I recollect instances lately where we have been very much pressed, but have not taken on more hands; we have got on without them.

565. Are the Committee to understand that the extra hands are paid 24 *s.* a week?—Some, I think, a guinea; some 24 *s.* a week.

566. Are they paid that throughout the year?—Yes, if they are retained as long.

567. *Chairman.*] Should you have a difficulty in furnishing an account to the Committee of what every man, either on the Mint establishment or on the casual establishment, receives?—No, it is given in the gross amount already.

568. Mr. *Hume.*] Have there been any losses of any kind by servants pilfering?—Robberies have taken place from time to time by the workmen.

569. Who have suffered the loss?—If the moneyers and the melter have been robbed, they have suffered the loss.

570. Have the public lost anything?—Nothing, that I am aware of.

571. *Chairman.*]

Mr. *W. H. Barton.*

25 April 1837.

571. *Chairman.*] In point of fact, are the extra labourers employed by the Mint ever admitted into the moneying department, where there is an opportunity of pilfering?—They are, of necessity, when they are employed to hand the bags of silver coin about in the telling-office; the coined monies are told out, after the weight has been ascertained, into bags of 100 *l.* each; these men are necessarily employed to handle the bags, but the bags are all tied up; the bullion porter and the master porter are looked to as responsible; it is considered their duty to look after these men.

572. Mr. *Herries.*] In point of fact, the Mint has not suffered any loss by pilferage of persons of that description?—We did suffer a loss by one of our watchmen, who pilfered of the melter on one occasion; there was no great loss, because the man was taken; I went down with a person and found the man, and the silver he had taken was found in his house.

573. That loss would have fallen upon the melter, and not upon the public?—Yes; whatever was lost fell on the melter.

574. Mr. *Wall.*] May not a petty system of pilfering go on for a long time without its being found out?—With the utmost vigilance it is impossible to guard against a man who has long acquired the habit; there must be vigilance exercised, but it is impossible to prevent it altogether, where we have to deal with such precious metals.

575. Have you any means of ascertaining the average expense incurred by the moneyers in the repair of machinery?—We have no means but their own return.

576. That can be got best from them?—Yes, certainly.

577. *Chairman.*] You state in your report that you think it desirable that some mode should be adopted of defacing the old dies, when they are no longer used, more speedily and effectually than is the case at present?—Yes; at present the dies are not defaced until the examination of the accounts, kept by the clerk of the irons, takes place; which examination is made by the deputy-master and comptroller.

578. Has any practical inconvenience been found to result from the present system?—I think, in the first place, should the dies be purloined at any time, they may be made use of for striking counterfeit coin; but a stronger reason why the dies should be marked so as to render them unfit for further use, immediately on being rejected at the press, is, that of any dies, which may have been taken out of the press, for producing imperfect money, the possibility of their being put in the coining-press again would, thereby, be most effectually prevented.

579. Do you believe it has often happened that imperfect dies have been used?—I cannot say positively, but it has been asserted to me to have been the case.

580. If that was to happen, would not it be immediately discovered?—It depends upon the vigilance of the persons superintending the moneyer and the surveyor of money presses; a great deal of imperfect money may be struck before it is discovered.

581. Mr. *Herries.*] You do not know that any case of that kind has occurred?—I cannot speak positively to the fact, though I have heard it has.

582. *Chairman.*] What do you mean by the opinion you express in your report, that a better system of polishing the dies for the press, after they are hardened, ought to be adopted?—At present they are polished by two of those artificers who have been spoken of; the dies are sent from one side of the Mint to the other in order to be polished; I think they ought to be finished in the department in which they are hardened; that they should not be handed about the department more than is necessary.

583. Your situation at the Mint brings you acquainted with the system on which the accounts of that department are kept, does it not?—Certainly.

584. The system of double entry has lately been introduced into the master's cash account, has it not?—That is merely an experiment; it is not the master's main account which is sent to the Audit-office, that is still the same; the system of of double entry alluded to, is merely one for the satisfaction of the master, to exhibit the various services to which the moneys in his hands are applied, in a more distinct manner than is shown in his audit account; it is not rendered to the Audit-office; it is merely an account kept as an experiment in the department.

585. Are you of opinion that any further alterations ought to be made in the manner in which the accounts of the Mint are kept?—I do not think that the main account, the master's cash account, which is the principal one, can be stated

stated in a more simple form than it is at present, for the Audit-office to know the actual expense; for the receipt and expenditure of the establishment the system of double entry, I apprehend, would not be applicable to that account, that is to say, as the account to be rendered by the master to the audit board,

586. You state, in your report, that since the business of the commissariat department has been thrown upon the Mint it has produced a great increase of the duty that relates to the accounts in the Mint?—Yes; we have now, of course, to take the accounts of the dollars purchased by the deputy-master for the commissariat, and to receive those dollars in charge, and we have to superintend the packing of them and the silver coin into boxes; all this is extra work to what we had before, and it also involves the keeping of additional accounts. The comptroller keeps no cash account, that rests solely with the deputy-master; he is the accountant of the Mint; the accounts kept by the comptrollers are merely as checks upon the proceedings.

587. Do you think that, as a check department, the present system is satisfactory and complete?—I think the accounts required to be kept by the check officers, for the conduct of the coinage, are complete; but with respect to the commissariat account, if the comptroller and the King's clerk are required to keep any check account with the deputy-master of the transactions between him and the commissariat branch of the Treasury, then I think that a routine should be established for the documents from the Treasury giving notice of the moneys imprested; if we are to check against the master the sums imprested to him for commissariat services, either notice should be sent direct from the Treasury to the comptroller and the King's clerk when such imprests are made, or they should have some knowledge of the letter sent to the master.

588. Would the establishment of such a system throw much additional duty upon the office?—No great deal; we know one side of the account; we know all that goes out, but we do not get a knowledge of what comes in.

589. Mr. *Hume.*] By your report, it appears that you make oath before the Barons of the Exchequer to the accuracy of the comptroller's roll?—Yes.

590. You also, it appears, make copies for the Audit-office; what check and comptrol are each of those intended to give to the account?—The document itself, the comptrolment roll, goes to the Audit-office; that contains an account of the bullion brought into the Mint for coinage, the monies coined, specifying the different denominations of the monies coined; also the total amount of the respective coinages of gold and silver, and the values; copper is a matter of Treasury regulation. I am only called upon to return the whole of the gold and silver coined, upon oath before one of the Barons of the Exchequer.

591. Do you make a return to the Exchequer, similar to that made before the Barons of the Exchequer?—No.

592. From what period have the certified accounts been rendered to the Audit-office?—I should say, from time immemorial; formerly, the bullion was not melted in the Mint; it was necessary then to have such documents attested on oath, to guide the board of audit in deciding on the master's account; that I apprehend to have been the origin of the roll.

593. Of what use to the auditors is that document, sworn to before the Barons of the Exchequer?—It enables them to check the sums charged in the main account of the Master of the Mint, in his cash account, as paid to the moneyers and to the melter for the coinage of the respective monies.

594. Would not a statement of this kind laid before them direct, be equally useful?—I should apprehend it would; the same document merely certified to by the comptroller, would answer the purpose equally well.

595. You think it is no additional check, provided the same document be signed and delivered at the Audit-office?—I should say not; I make oath that it is correct, and I should deliver it under a certificate on the same terms; it is prepared carefully, and is the only account which exhibits in one view the proceedings of the Mint, as far as the coinage of the realm is concerned.

596. You have stated, that there are periods at which the Mint is very busy, and others when the work is very slack; can you suggest to the Committee any means by which the Mint could be kept in regular employ, and those changes avoided?—There is not the least doubt that the Mint would be kept more

Mr. *W. H. Barton.*

25 April 1837.

actively at work, and more bullion would be brought to the Mint to be coined, if greater facility were given to the importers by affording them a quicker return for the bullion they bring to the Mint; we have had one instance on record, where that facility was afforded; we had a fund of 250,000 *l.* at one time, which enabled the Master of the Mint to purchase gold bullion at the price of 3 *l.* 17 *s.* 10½ *d.* an ounce; this fund enabled him to pay the merchant a certain proportion, instantly that the bullion was brought to the Mint, in coined monies.

597. In what year was that?—It began in 1829, and terminated in the beginning of 1831.

598. Why was it discontinued?—The sum was advanced from some peculiar funds of the Government, the Treasury required it to be refunded.

599. Was it done by any minute of the Treasury?—It was done at the suggestion of the Master of the Mint for the time; I think that suggestion was adopted by the Lords of the Treasury; he could not have obtained the fund without that; it would be very desirable, speaking of gold, without reference to silver, if we had a fund, and if facility was afforded to the holders of bullion to convert it rapidly into coin.

600. *Chairman.*] When you say it would be a very desirable thing, you mean that it would greatly increase, in your opinion, the amount of bullion brought to the Mint to be coined; that the consequence would be, that the work would proceed more continuously than it does at present, and you would be able to strike an increased quantity of coin at a cheaper rate?—The cost of the coinage would remain the same; the public would then be supplied by the individuals who imported bullion, if they found it their interest to bring that bullion to the Mint in preference to selling it to the Bank or any other customer; it would be brought to the Mint and converted into coin, instead of being lodged in the coffers of the Bank, or of other individuals.

601. If that rule were adopted, would it not have the effect of inducing the bullion merchant, who wanted to export the bullion to foreign countries, to come to the Mint and have it coined, in order to throw upon the Mint the expense of assaying and turning into coin that money which was intended not for circulation in the country, but for the object of export?—The merchant would, for export, prefer bullion; bullion would be the cheapest commodity to him for exportation.

602. Why should it be the cheapest commodity to the exporter of bullion when the Mint could have it assayed and coined for nothing without detention?—I do not see that there would be any inducement to the merchant to bring his bullion to the Mint to be coined for the mere purpose of exportation; there is a much more rapid means of knowing the value of it by assay than by turning it into coin; if he knows the value of the gold, that is all he requires.

603. Does not the present delay which takes place in the coinage of gold in the Mint operate to a certain degree in keeping that gold in the country, by having the effect of a greater seignorage upon it?—I apprehend it does not operate at all in keeping the gold in the country; for there is no difference between the value of gold coin now, and bullion.

604. Is the state of the bullion market always such that there is no difference between the value of coined gold and bullion?—Our coin is intrinsically worth 3 *l.* 17 *s.* 10½ *d.* the ounce; the merchant can only receive at the Bank for his bullion, if they purchase it, 3 *l.* 17 *s.* 9 *d.*, but then the 1½ *d.* an ounce difference is supposed to be equivalent to the delay in the coinage, since the interest on the bulk of the bullion would be lost.

605. Mr. *Herries.*] That 1½ *d.* is lost by the merchant, by reason of the monopoly practically enjoyed at present by the Bank coining?—I apprehend it cannot be called a loss to the merchant, for he has the option of selling to the Bank or coining; it is the Bank that loses the interest. If the merchant brings the bullion to the Mint to be coined, he loses the interest for the time; but, if he prefers it, he goes to the Bank and gets his ready money for the bullion.

606. If the Mint were enabled to coin immediately, he would not sacrifice that 1½ *d.*, but would go to the Mint and have it coined?—Most likely.

607. Then he would not lose that 1½ *d.*?—That is supposing he received value for value instantly, but we have never been able to do that by reason of not having a fund.

608. Are you aware that when that fund did exist, and you were enabled to deliver

deliver coin immediately in return for the bullion imported, the Bank immediately raised the price at which they purchased bullion?—I think not at that time, but I am not certain; of course it would have the effect of bringing the market price of bullion up to the Mint price, if the Bank were determined to possess themselves of the bullion.

609. *Chairman.*] Would not the merchant who wanted to export his gold from this country find it more to his advantage to export it in the shape of sovereigns rather than bullion; and would he not go to the Mint and have that gold coined into sovereigns?—I should apprehend not.

610. Mr. *Herries.*] Do you think sovereigns would be a better commodity in the general bullion market than an ingot of gold as an article of merchandize?—I see no difference between them myself. The foreign merchants do not care for the marks upon the coin; they only take the coin at its intrinsic value.

611. Mr *Clay.*] What, speaking of any certain sum, 10,000*l.* for instance, would be about the average length of time the Mint would require to convert that amount of gold bullion into 10,000 sovereigns?—The Committee may have much better information upon that subject by calling for a return of the experiment on gold, brought in lately for that purpose; before it gets through the routine of the whole department it breaks in very much upon a fortnight before the first delivery takes plaee.

612. *Chairman.*] The circumstance you refer to was a sum of 20,000*l.* being brought in?—Yes.

613. Are you able to state to the Committee what time occurred before the return of the sovereigns?—I am not able at this moment; I can furnish the Committee with a return of the time.

614. Mr. *Clay.*] The question which the merchant would have to consider would be, whether the interest on the time that his money was delayed at the Mint exceeded the 1 ½*d.* he now loses by selling to the Bank?—Exactly, I apprehend.

615. Supposing the Mint were to have a fund, from which they could immediately, or almost immediately, give the importer an equivalent amount of coined money for the bullion he brought to the Mint, would it not be very easy, by ascertaining the average time consumed in coining it, to make to each importer an equivalent charge to repay the loss of interest on the sum so held?—Certainly the expense of the manufacture of the coin might be taken from the importer.

616. Confining your answer first to the sum it would be necessary to charge for interest, that will be a matter of very easy calculation?—Yes, it would amount to a seignorage.

617. That might be so calculated as to be an exact equivalent for the interest on the gold that would be necessary to form that fund?—Yes.

618. That would in a measure obviate the danger referred to, of expense being incurred by persons being induced to bring their gold to you to be coined, with a view merely to determine its value?—It would operate as a check upon the merchant bringing bullion to the Mint, for the mere purpose of sending it abroad again in coin; it would discourage that, no doubt.

619. If in addition to the coinage, which was equivalent to the interest alluded to, there was enough charged to pay the expense of coinage, that would operate as a discouragement to the wantonly turning gold into coin?—Certainly.

620. At present, the merchant selling to the Bank, receives 1 ½*d.* an ounce less than he would receive if he took the money to the Mint?—He receives 1 ½*d.* an ounce less under our existing regulations, certainly.

621. You would have no difficulty, if you had a stock of money at the Mint, first, in returning immediately the amount required by the person bringing the bullion, and secondly, in charging such an amount of seignorage as would repay to the country the loss of interest on the money so held?—None whatever.

622. Sir *Thomas Fremantle.*] You state, that the period within which a considerable sum of money might be coined, might be something about a fortnight?—I mentioned that, in about a fortnight, a return would be made to the importer, as to the amount, it depends upon the quantity imported.

623. The 1 ½*d.* taken by the Bank, bears a proportion to the period consumed by the Mint in coining a certain quantity of gold?—It does, about a sixth per cent.

624. Would it be possible to indemnify the country, by any charge of that nature,

Mr. *W. H. Barton.*

25 April 1837.

nature, supposing there had been a stock at the Mint for a twelvemonth, for which no demand had been made?—I apprehend that, in such a case, the Government must always lay it to their account to lose the interest upon the capital employed, which was the case in the instance referred to.

625. Then the difference of 1 ½ *d.* would not be sufficient to indemnify the country against a considerable loss, provided that plan was adopted?—Certainly not; the 1 ½ *d.* is about a sixth per cent.; the interest would be more than that.

626. Mr. *T. Baring.*] What was the amount of the fund the Mint had at that time?—£. 250,000.

627. You say you do not think there will be an inducement to bring gold in to be coined for foreign export; do you not think that, supposing the foreign banks advance on that money at the same rate as on bullion in bars, there would be an inducement to the merchant to employ our Mint, having thus the option of both markets at home and abroad?—That is a question on which I do not feel prepared to give a decided answer; it is a mercantile question; I think that the merchant can determine the value of his bullion much more rapidly by an assay report than he can by getting it coined at the Mint, therefore I think for export he would always prefer that mode.

628. *Chairman.*] Have you ever made a calculation what is the rate of expense at which our gold coinage is conducted?—Yes, the gold at the English Mint is coined at 9*s.* 2*d.*, or rather less than a half per cent.

629. Is that taking the sovereigns and half sovereigns together?—Yes; but I am speaking of sovereigns particularly now.

630. Including every charge?—I am speaking of the charge paid to the moneyers and the melter, not including the expense of the establishment.

631. Can you state at what rate the same operation is performed in any foreign country?—I know that in France it is coined at less than a quarter per cent., having reference to the same charges of the moneyers and melter.

632. Mr. *Hume.*] Do you mean the same charges for which we pay 9*s.* 2*d.*?—Yes.

633. *Chairman.*] In that operation do you mean to include in the charges of France the whole expenses of manufacture?—Yes; I have not made this computation of the charges in France myself; but I apprehend it has reference to the expenses of the contractor; but Mr. Morrison made the computation of the French money.

634. Mr. *Wall.*] Have the goodness to state why it is that the French are able to coin at so much cheaper a rate than we do?—I should apprehend that it arises from the difference in the price of labour and materials; I am not aware of any other difference. Labour is much cheaper, I believe, in France than it is here.

635. Mr. *T. Baring.*] Is it not by contract?—It is a species of contract.

636. *Chairman.*] The businesses of melting and coining the monies are managed under the same contract in France?—I believe they are.

637. Are the businesses of melting and coining the monies separated in any other countries, except England, that you are aware of?—Yes; in the American mint they have a melter and a chief coiner.

638. In America the whole operation is conducted by the establishment?—Yes; but it becomes to a certain extent a kind of contract, inasmuch as the melter and chief coiner have certain allowances for the waste on the manufacture, over and above their salaries.

Veneris, 28° *die Aprilis*, 1837.

MEMBERS PRESENT.

Right Hon. Henry Labouchere.	Mr. Goulburn.
Sir Charles Lemon.	Mr. Baring Wall.
Mr. Hume.	Mr. T. Baring.
Mr. Herries.	Mr. Clay.
Mr. J. Parker.	Mr. Pattison.
Sir Thomas Fremantle.	Viscount Lowther.

THE RIGHT HON. HENRY LABOUCHERE, IN THE CHAIR.

Mr. *Henry Bingley*, called in; and further Examined.

Mr. *Henry Bingley.*

28 April 1837.

639. *Chairman.*] YOU were present at the examination of Mr. Barton, were you not?—I was.

640. You heard the observations made by that gentleman upon the subject of the perquisite of water-silver, which has been enjoyed by officers holding your situation?—I did.

641. Is there anything you wish to say to the Committee with reference to the subject?—I would beg to be allowed to make a few remarks upon the subject. The advantage arising to the King's and Master's assayers in the use of water-silver is traced back as having existed from the earliest periods, and not as the comptroller's Report would imply, "granted in consequence of a recommendation made by Lord Maryborough." This regulation merely confirmed an old established practice. It is prominently brought forward in the Report of the comptroller, that water-silver, at the time of the notice taken of it, did not average more than 25 *l.* per annum. This sum was only mentioned by the late King's assayer as the average of a certain number of years then and last past; years in which this country being involved in war, there was comparatively but little coinage. This sum could never have been mentioned prospectively, as no knowledge or information as to the future wants of the assay offices could be required or obtained. In a subsequent part of the comptroller's Report the attention of the Committee is particularly directed to the fact, that in 1821 water-silver amounted to 700 *l.* per annum, and in this year to 150 *l.* per annum. I think I have some reason to find fault with this statement, because, taken as it stands, it would lead the Committee to the conclusion that water-silver is a much greater expense to Government than it really is, and because this statement should, if given at all, have been accompanied with other and explanatory matter. In the late returns to Parliament respecting the Mint, the Committee will find the total amount the Mint paid for water-silver during each of the last 15 years. The comptroller has selected the largest amount, but why not have coupled it with the least, which shows that in 1834 the whole sum paid was 55 *l.* 8 *s.* 4 *d.* The yearly sums paid by Government for water-silver have always been for two offices, and from the printed returns to Parliament it is shown that the whole silver recovered from solution in the King's assay office during the last 15 years did not average more than 160 *l.* per annum; and to recover this considerable trouble and expense were incurred, and should be taken into account. That water-silver has been of more advantage to the assay offices during the last 15 years than it had previously been, I readily grant; but when this additional advantage was consequent upon additional coinages and greater labour, why should this be objected to any more than the increased expense Government incurs in every other department during such coinages?

642. Do you conceive that there would be any objection to abolishing these perquisites, if fair compensation were given to the King's assayer?—That is exclusively a question for the Committee?

643. Is there anything in the nature of the thing that would render it improper to pay for it by an addition of salary rather than by perquisite?—I am not aware that there is.

Mr. *Henry Bingley.*

28 April 1837.

644. Mr. *Hume.*] By the returns laid before Parliament last Session to which you allude, in page 50, of water-silver, there appears to have been supplied 81 pounds of silver annually, on the average of 15 years, at the cost of 270*l.*; from which, are the Committee to understand that only 160*l.* has been recovered yearly?—£. 160. yearly is the only profit which the King's assayer has got for the last 15 years, taken as the average.

645. The Committee are to understand that on the average of 15 years, taking in the supply to the master's assayer and the King's assayer, there has been a loss in the use of their silver of 110*l.* annually?—Not unless stated so in the returns.

646. Mr. *Wall.*] It is not used equally in the two offices?—No; there has been more used in the King's assay office.

647. Mr. *Hume.*] Is there any money received for the sale of that blue liquor which is used in the process?—The supply of blue liquor has always been a perquisite of the chief fireman.

648. Do you know to what extent that is yearly?—I asked him the question the other day, and he told me it averages about 10*l.* a year.

649. What is the greatest quantity you have ever known sold of it?—I have never taken any control or cognizance of that; it was always considered his perquisite, and I never inquired until I knew that the subject had been mentioned to the Committee.

650. Is it always sold to one person?—I do not know; I believe it is.

651. That is a chemist in Plough-court?—I believe it is.

652. Do you know at what price per gallon it has been sold?—I do not.

653. Can you state what proportion of that water-silver has been employed on private assays, and what proportion on public assays?—That depends altogether upon the relative proportion of public to private, of which the records alone can give any account; but I beg to remark that those printed returns before the Committee do not include the whole of the public work: I am engaged in pixes of which there is no return made, which increases the amount of public work; and also the examination of foreign coin, of which there is no account taken: there were 300 foreign coins, of which I made an examination lately for Government.

654. Mr. *Herries.*] You speak of pixes at the Mint?—Yes; I am obliged to examine individual pieces at the pixes.

655. Does that occupy a considerable portion of your time when the coinage is going on?—Yes, a great deal.

656. Can you now state what number of assays you can execute in a day?—I stated in my last examination that in the King's assay office I have done 80 gold assays in one day: I should have stated, that if they were all completed in one day they would take a great deal of preparation the previous day by the firemen.

657. Are you not able to state what number of assays have been done in the usual working times?—The printed returns of the private assays, during the 15 years' assays, do not average more than 15 or 16 in a day of gold, the same of silver.

658. You may refer to a time when there was very little going on?—There was a great deal going on during those 15 years. I beg to say that we have not done 80 in a day on an average; that has been an extraordinary thing.

659. Mr. *Hume.*] How many silver assays have you ever done on the same day?—I cannot speak accurately as to the number; but I should say we may have done 30 or 40 silver in addition; that is possible in a day of particular pressure.

660. Mr. *Herries.*] Have you any thing to add upon the subject of the computed expense of those assays?—Nothing more than that the statement in a paper shown to me by an honourable Member, making the computed expense of 100 gold assays to be between 9*l.* and 10*l.*, I conceive to have been erroneous; because the expense of 100 gold assays charged out of the Mint at 2*s.*, would exactly come to that amount, the supposed cost of the materials employed.

661. Mr. *Hume.*] That question was put on the ground of Government paying for all the materials, and your receiving 5*s.* for the assay?—The expense of materials

materials at the private assayer's, and at the Mint, would be precisely the same.

662. Mr. *Herries.*] You estimate that the expenses of the gold assays are about *2 s.* an assay?—I have not the means of estimating the expense; *2 s.* is, it is said, the price charged out of the Mint; if the expense of the materials came to that amount they would have no profit at all, and therefore that cannot be correct, or there would be no profit to the assayer.

663. You cannot give the Committee any further information as to the expense of assays?—I cannot, except by comparing the total amount of assays done, within a given time, and the total expense in the same period.

664. On referring to one of your former answers, that you could not execute 80 gold assays in a day, except by working an unusual time, what number of assays could you perform within the usual office hours, and using the ordinary establishment?—Perhaps half the number.

665. You would think 50 or 60 assays a good day's work?—I should, indeed; but in all the cases which I have described of a great quantity, it has been done by previous exertion, making preparation the night before, and working late the following day.

666. What is the principle on which your process of assaying proceeds, and on what principle is the Report made; is it by ascertaining exactly the quantity of precious metals contained in any fixed matters absolutely, or declaring what quantity is contained with reference to some fixed standard?—It is always declaring what they contain with reference to a fixed standard.

667. What are your means of making your calculation; have you a piece of that fixed standard always to compare any matters subjected to the process in question?—Every assay is or ought to be compared with that fixed standard.

668. Is there what you call a trial plate?—Yes.

669. Have the goodness to state how that is formed; how you obtain that measure by which you ascertain the value of all the gold imported into the Mint?—The trial plates are manufactured generally at long intervals of time; they are prepared by the Goldsmiths' Company, and subjected to examination by the King's assayer at the Mint.

670. Have they been always subjected to the test of the King's assayer at the Mint before they were used as trial plates?—I think it very possible, from the inaccuracies found to exist in one or two of the plates, the subsequent reference to the King's assayer in those cases was not adopted.

671. You say they are prepared by the Goldsmiths' Company, under what authority is that? is it by warrant from the Lords of the Treasury?—I believe so.

672. In what way are they verified? is it, as in the case of the coin, by a jury of goldsmiths that their exactitude is determined?—I think it is.

673. Are you aware from the records of your office, that in any times past there have been any remarkable inaccuracies in any of the plates such as you have described?—The silver trial plate previous to the present was a very incorrect plate, and had of course an influence on all the coin made and manufactured.

674. Was it finer or coarser than it should be?—Nearly a pennyweight and a half better than it should be.

675. Then it would follow that the coin that may have been fabricated exactly according to that measure will have been a pennyweight and a half finer than it ought to have been by law?—Certainly.

676. Had it also an influence in the preparation of the articles of plate made by the Goldsmiths' Company by the standard trial plate?—I apprehend it influenced not only the coin, but the manufactured plate.

677. During the continuance of the use of such plate, was it not the case that all plate, as well as the coin, was liable to be made finer than it should have been?—It was.

678. Was that corrected?—It was corrected on the formation of the new trial plate, which is that which now governs the country.

679. At what date was that?—In the year 1829.

680. Can

Mr. *Henry Bingley.*

28 April 1837.

680. Can you tell what new regulations were introduced to obviate the recurrence of such inaccuracies as you have adverted to?—It was made a rule that the trial plate should be for the future always subjected to an examination at the Mint, by the King's and Master's assay-masters.

681. Was it not directed specially by the Lords of the Treasury, at the suggestion of the Master of the Mint, that in the formation of any new trial plates by the Goldsmiths' Company, the plate should not be adopted and acted on until the King's assayer had tried and reported that it was accurate?—It was.

682. When the new trial plate was formed with that additional security for its accuracy, were not all the old trial plates then in use withdrawn and lodged in the Mint?—Yes.

683. Are they in your possession?—They are in the possession of Mr. Morrison, the deputy-master.

684. Are you aware that many of the gold plates, as well as the silver plate, were found to be inaccurate?—There were inaccuracies in the gold plates, which though less in actual quantity, amounted to perhaps more in value; but I have furnished the Mint library with very minute particulars of the trial plates, which I think would afford information to the Committee upon that point; they are all subject more or less to inaccuracy; it is impossible to combine two metals together, and say this shall be the mathematically correct standard the law prescribes; it is done it in a way affording the greatest possible approximation.

685. Mr. *Hume.*] Is that information you have given to the library of the Mint in the form of a report?—No; a sort of history describing the peculiarities in the trial plate.

686. Mr. *Herries.*] Are those observations in a state that they could be produced for the satisfaction of the Committee?—Certainly; they are in a state which might be produced at any time.

687. It has happened that in the practice of the Mint there have been several gold trial plates prepared at different times, which have been afterwards deposited in the Exchequer?—I believe so.

688. In order to secure the purity of the coin, were not the officers of the Exchequer always desired, in the case of the trial of the pix, to select that which was known to be the most accurate?—Certainly.

689. It was well known to the officers of the Mint that there were several which were inaccurate?—Several so innacurate that they were never used at all.

690. It is owing to the skill and attention of the King's assayer principally the purity of the coin has been very accurately maintained, notwithstanding the imperfection of the trial plates?—Yes; and by the order of the late King's assayer the new trial plate which now governs the country was remelted by the Goldsmiths' Company, I might say, I think, half-a-dozen times before we could get the correct standard.

691. That was in 1829?—Yes.

692. Showing the extreme difficulty of combining two metals, so as to produce exactly the degree of fineness which may be required?—Exactly so.

693. You do not mean to deny that the Goldsmiths' Company are very accurate, and work very skilfully?—Very; but it is the difficulty of combining a certain portion of gold with a certain quantity of other metal, and making a correct standard, which shows the propriety of referring it to the officers of the Mint before it is determined.

694. You do think that, with the check of the King's assayer upon it, an accurate trial plate is now used?—I think they are now as accurate as it is possible to make them.

695. Do you happen to remember whether so far back as Sir Isaac Newton's time one of the trial plates used was not correct?—I do not recollect the circumstance, but it most probably was so.

696. Mr. *Clay.*] What is the source of the difficulty to which you allude, inasmuch as the quantities of the metals respectively can be perfectly ascertained?—The quantity of gold and of alloy can be added, and are no doubt added together with mathematical precision; but they can be combined only by the process of melting, and that subjects them to change; the action of the

Mr. *Henry Bingley.*

28 April 1837.

the fire varies the proportions; again, the gold may be not perfectly fine gold, which affects the result.

697. Supposing the composition is of perfectly fine gold, and the quantity perfectly exact of alloy, still the result may not be a mixture in the proportions desired?—Certainly.

698. The inaccuracy is, that the combined metal is finer in some instances?—Most probably.

699. Inasmuch as the base metal is destructible by the fire, and the perfect metal is not?—Just so.

700. *Chairman.*] Do you conceive that under the present system the accuracy of the trial plate is as well secured as it can be?—I cannot substitute a better; I think the Goldsmiths' Company making it, and subjecting it to examination at the Mint, affords the best security.

701. Mr. *Wall.*] How long is it probable the trial plates of 1829 will last?—The average duration of trial plates has been nearly 100 years; but it depends upon the quantity of coin that is issued from the Mint.

702. Mr. *Herries.*] You take a small piece of it to compare with that brought in for examination, do you not?—Not often of the real trial plate itself; but we take care to have perfect assimilations to it, those which we know perfectly correspond.

703. Mr. *Wall.*] Are there any trial plates of great antiquity in the office, or are they melted down?—I think they are not melted down; I think they are all preserved.

704. Mr. *Clay.*] Will perfectly fine gold lose any portion of its weight by melting?—Not in its weight, if the melting be properly conducted; but you may destroy gold or silver, if the object be to destroy.

705. *Chairman.*] Has not an alteration taken place of late years in the nature of the alloy which is united to gold in making coin?—There is a very great alteration in the nature of the alloy; it used to be a combination of silver and copper, generally in equal proportions; it is now all copper.

706. To what was the change in this respect owing?—It was done for the purpose of extracting the silver from sovereigns.

707. What led to the desire of extracting it, and the change in the gold alloy?—The cheaper mode of extracting silver; formerly there was not a process by which it could be done that paid for the time and labour and expense, but now it is worth while to do it, owing to the cheaper mode.

708. A new process was discovered, by which the silver could be extracted from the gold much cheaper than it could be before?—Yes.

709. What is that process?—It is done by the application of sulphuric acid, a cheaper mode of dissolving the silver and separating the two.

710. Is it within your knowledge that a great quantity of coin was exported from this country to France for the purpose of effecting that separation?—It is.

711. It was worth while to export sovereigns to France for the purpose of extracting the silver?—It was.

712. Mr. *Herries.*] That was because the operation was performed more cheaply and more expeditiously in Paris than in London?—At that time.

713. Is that the case now?—I think not.

714. Is the same species of operation carried on now?—No; for the sovereigns which used to be alloyed by silver are now out of circulation.

715. Is the operation on the same principle now conducted in London of separating silver from gold and gold from silver?—There are two distinct processes; the separation of gold from silver is a different process from that, by which small quantities of silver are separated from gold; small quantities of gold are separated from large quantities of silver by the agency of sulphuric acid, but to separate small quantities of silver from large quantities of gold, we generally adopt a distinct plan, that of using nitric acid; still they may both be done by the same process, as is now the case at the Mint.

Mr. *Henry Bingley.*

28 April 1837.

716. Is the process of separating the gold from the silver by sulphuric acid now performed in London?—It is now performed at the Mint.

717. Then there is not the same necessity or temptation to send gold to Paris to have that performed as there was formerly, when it was not performed at the Mint, or in London at all?—Certainly not.

718. Mr. *Hume.*] Have you any account of the number of parting assays you have made in the Mint since the process was discovered?—They are included in the returns, not separately, under the head of parting assays, for we did not make a separate head of them; but the parting assays are included, as one gold and one silver.

719. Has that process to any extent been carried on in the Mint?—The process of parting has been carried on by the sulphuric process to which I have referred, parting assays have reference to that; they are private assays, and have no connexion with coining.

720. Mr. *Herries.*] By parting assays, do you mean those by which you determine what quantity of silver there may be found in any gold brought to you, or the respective quantities of gold and silver?—The respective quantities of both.

721. In the ordinary assays all you have to determine is the quantity of fine gold or silver contained in a certain quantity of mixed metal?—Yes.

722. But in the case of parting assays you have to ascertain the quantity of silver in combination with gold or gold with silver?—Yes.

723. Mr. *Hume.*] What is the charge for a parting assay?—For an assay of silver ingots containing gold, the charge is *5s.*

724. Has that been the charge for four or five years?—I altered the charge; it was *7s. 6d.*

725. It had continued *7s. 6d.* until you came into office?—Yes, until I reduced it to *5s.*

726. If the parting assays are included in this return of private assays, how do you reconcile the statement that they were paid for at *5s.* for gold and *2s. 6d.* for silver, with the statement that *7s. 6d.* was charged for these?—We thought the best way of making out the account was to put it so, the parting assay being at a charge of *7s. 6d.*, dividing *5s.* for gold and *2s. 6d.* for silver; the charge was put down thus in these accounts, taking them as one gold and one silver.

727. Reckoning each parting assay as one gold and one silver?—Yes.

728. When was the present mode of keeping your accounts begun?—I believe they have continued the same for a length of time; I know my predecessor made use of the same mode.

729. Mr. *Herries.*] You were probationer under him?—I was 16 years probationer; I believe there was never an instance of any one being so long probationer.

730. Mr. *Wall.*] There appears to be a constant reference to the health of the King's assayer. Is there anything unhealthy in the operation of assaying?—It is very unhealthy, and it is extremely difficult for any one not acquainted with it to form an idea of the unpleasant nature of the operation.

731. How long was your father in the Mint?—Nearly 50 years.

Mr. *John Malebysse Beckwith*, called in; and Examined.

Mr. *John Malebysse Beckwith.*

28 April 1837.

732. *Chairman.*] YOU fill the situation of master's assayer at the Mint?—I do.

733. How long have you filled that situation?—Nearly 27 years; I have been in the Mint 35 years.

734. When the office of King's assayer was lately vacant it was offered to you?—Yes; but I made a voluntary resignation of any claim to the office.

735. Have the goodness to state the duties of the office of master's assayer?—The duties of the office were regulated, I believe, in the year 1815, by my Lord Maryborough; they are these: first, to receive from the master and worker all manner of gold and silver ingots brought to the Mint; second, to deposit

deposit the same in the joint custody of the deputy master and himself in the stronghold of the assay office till the assays are made; third (by indenture), to cut one or more pieces from each ingot, as he may think proper, and assay the same; fourth, to make written reports of the assay of each ingot, describing the fineness, date, and name or mark of the importer, and keep a record thereof; to make also such remarks on the quality of the bullion as may be needful for the master's information, and to deliver the list usually given by the importer of the purchase assays; fifth, to give instructions for the classing of certain of the ingots together, so that the bullion may be mixed and worked as close to the standard as possible, and advantage procured by the Mint assay; sixth (by the Mint indenture), to deliver the ingots when assayed to the office of receipt.

736. What is the salary attached to your office?—£. 400 per annum; and I also receive a gratuity for length of service of 68 *l.* 6 *s.* 10 *d.*

737. Are there any other fees or emoluments of any description whatever attached to that office?—I receive water-silver, in the first place; in the next place, I am paid for assays by the Bank of England, as well as by every other importer; I receive from the importer of bullion at all times a fee of 2 *s.* an ingot, be the importer who he may.

738. That is a public fee, regulated by the Mint?—Lord Maryborough, in his Report, has recommended that that fee shall be continued specifically to me.

739. Has any alteration taken place in the amount of that fee since that time?—Yes.

740. Mr. *Hume.*] Is that for gold or silver?—It is as to both. I thought it better to take one fee generally for the whole, than a different fee for each; and on my application to the Bank for an augmentation, it was fixed at 2 *s.* This is a copy of the letter I received in answer: "Bank of England, 20th October 1814. I am directed by the governor and deputy-governor of the Bank to acquaint you that your letter of the 18th July last, has been considered, and that your request of an additional 6 *d.* for the assaying of each ingot has been complied with. I am, sir, your very obedient servant, William Shrubsole, secretary to the committee of treasury."

741. *Chairman.*] Were you authorized to demand this increase of that fee by the Master of the Mint?—No, not at all; but in consequence of Mr. Bingley altering his fee, thinking myself underpaid, I made that application, not unknown to the Mint, but I had no authority from the Master of the Mint to make it.

742. You were understood to state that this was a public fee?—No, but it is paid sometimes by the public.

743. Mr. *Herries.*] Did you augment your fee to others besides the Bank in the same proportion?—Yes, certainly; I thought that when the Bank agreed to that augmentation, I was entitled to it from the rest. I did not apply to each of them, but charged it as a matter of course.

744. Had you any authority from the Master of the Mint to raise your fee generally?—Certainly not; I consulted Mr. Bingley whether he thought there was any impropriety in my making the application to the Bank.

745. *Chairman.*] You were understood to say that you considered this a public and not a private fee?—It is paid to me principally by the Bank.

746. Are accounts kept at the Mint of the money received by you, under this head?—Not at all; it is my private emolument; it is appropriated to me; it is according to the custom of the office.

747. Mr. *Hume.*] Are those the fees you have returned to Parliament the last Session?—Yes.

748. It is reported that in 15 years you made 62,842 gold assays and 16,181 silver assays, for which you received 2 *s.* equally for gold and silver; are those the assays you allude to?—Yes.

749. Mr. *T. Baring.*] Do you understand that the amount of the fee is a matter of regulation between you and the Bank, independently of the Mint?—I conceive so, certainly: the Bank assented to the augmentation of my fee from 18 *d.* to 2 *s.*

750. In case you thought proper to apply for a further augmentation, it would not come before the Board at the Mint?—It never was customary to do so; I believe, it rested in the bosom of the Bank: I should not have aug-

Mr. *John Malehysse Beckwith.*

28 April 1837.

mented it without consulting Mr. Morrison or Mr. Bingley, and perhaps eventually the Master of the Mint might be consulted.

751. Mr. *Clay.*] By whom are the fees on the silver ingots paid to you?—Sometimes by Government: it was a matter agitated before the Master of the Mint many years ago, whether I should be entitled to the fee on silver; I contended that Government derived all the advantages from the assay, and I was therefore as much entitled to receive that from the Government as from private individuals; and the Master of the Mint asked me whether there was not an advantage from my assay.

752. Is not the fee from silver now always paid by Government, inasmuch as there is no silver coined but by Government?—Yes; but sometimes it is paid by the melter, and I have the same fee from him and the moneyers.

753. Mr. *Herries.*] When Government imported gold for coinage, as they did some years ago, bearing the effigy of Louis 18th, did you receive the same fees on the assay of that?—Just the same.

754. *Chairman.*] Do you conceive there would be any objection, with reference to the duties in the office, to abolishing those fees, if adequate compensation were made to the holder?—Certainly not; to me it would be rather desirable; I should gladly assent to it.

755. You see no inconvenience to the public service from the substitution of a compensation and an abolition of those fees?—None at all.

756. Mr. *Herries.*] It is a duty not better performed by reason of the stimulus of a fee than it would be without it?—Certainly not: my object has always been to give the importer the greatest advantage I possibly can, not deteriorating the standard in any degree, taking care the melter should not be injured, and that the importer should have every advantage to which he was entitled.

757. Mr. *Wall.*] In what year was the authority from the Master of the Mint for the receipt of that fee on silver ingots?—I think it was in 1814 or 1815, it was debated before the Master of the Mint whether I was in equity entitled to it.

758. Is there a minute of that in the office?—I am not aware that there is any, but I have always been paid the fee. Upon the old silver returned at the time of the re-coinage I received no fee whatever, and on this very ground, that there was no advantage derived from my assay to compensate the public; therefore, all the old silver was assayed without any compensation whatever.

759. Mr. *Hume.*] How long do you take after gold is sent to the Mint for coinage to complete the assay?—That it is very difficult to say; but the usual quantity imported when we are not very busy is 100 ingots in the course of a week: if they are sent in on Monday they are returned the following Monday; if we are busy 200 have been returned in the same time. I have returned 300 in the course of a week.

760. How many in a day?—I cannot divide them into the day; but 300 have been given back in the course of a week.

761. Supposing you had a quantity of gold brought in on Monday, when can you completely assay it, so as to report to the Bank the value of the gold?—That would depend entirely upon my exertions; one ingot may occasion as much trouble as 10 or 20: we never make an operation on one ingot; it would not be worth the expense to do so.

762. What is the time required to make an assay?—We never work on one; we never make a fire for less than five or six.

763. Supposing that to be done for an object?—It might be done in the course of four or five hours, or perhaps three or four. I should not think it worth while to light a fire for less than 8, 10 or 12; the expense of fuel is so great, it might cost 3*s.* or 4*s.* to light a fire, and I have been exceedingly tenacious of the expense Government might be put to for those purposes.

764. All the materials used by you are purchased by Government?—Yes.

765. Do you employ the Government servants?—I have one man attached to the office, and when particularly busy I am allowed an extra man, which is paid for by Government. I take care not to employ the extra man or men any more than I can help. If the man remains with me the whole day, I give him 2*s.*; if he remains half the day, I give him 1 *s.* I never require him unless I am particularly pressed.

766. That man is charged on the contingent expenses?—Yes. Sometimes I have

I have had a second person permanently with me when there has been a great pressure.

767. Mr. *Wall.*] When you speak of 300 assays a-week, is your calculation made on the hours between 10 and 4?—No, it has happened I have been obliged to commence at three or five o'clock in the morning for 300 assays, and continue till seven or eight in the evening. For 200 assays I might get through them, perhaps, between eight in the morning and five or six in the evening. During the great pressure of the Bank of England, I think that as many as 400 ingots were done in the course of a week, but I was obliged to work night and day. I think I did, in the course of one week, perhaps as many as 400, or from that to 500; but they were under peculiar circumstances, the weights were all identically the same. I had no removal of the weights from one scale to another, which takes a considerable time.

768. Mr. *Hume.*] Do you assay the same quantities, 15 lbs. of gold, on an average?—Yes, the gold ingot is usually 15 lbs., and the silver, 60 lbs.

769. To whom do you make the report of those assays?—To the Mint Office.

770. Does the Mint Office contain a report of all your private as well as your public assays?—I make no assays but what go into the Mint Office.

771. You keep a regular register of all the work you do?—Yes.

772. Is that submitted to the Master?—No, it has never been called for to my knowledge.

773. Was the return made by you last session made up from your private book?—Yes, entirely so.

774. Does that include every assay for which you have been paid?—I was called upon to make a return of the ingots which had passed through my office: there are some assays perhaps for which I have been paid besides; but if there are any, they are very inconsiderable, not to the extent of 5*l.*

775. Is not your office considered as a check on the King's assay-master?—No, not at all: the province of my office is only to mix the metal to make it standard; the King's assay office, after the metal has been melted, is a check on my operation; he tries the metal to see whether it corresponds with the standard.

776. Do you and the King's assay-master consult together on the assays?—Formerly, during the time of Mr. Bingley, I was in the habit when I have had a gold assay, as he made two and I made only one, of calling on him and checking with him to see whether there was any deviation or not; that was absolutely necessary in consequence of my making only one assay, for on one assay no assay-master can depend; it might be possible in making one assay, for a small particle of gold to get in by accident or be left out, therefore it must be checked.

777. At that time did you compare your report with Mr. Bingley's, and did you agree as to the report you were to give?—Yes, to see if there was any deviation in the small fractions; there was no difference in the report. Afterwards, when Mr. Henry Bingley came into the office, a different method was adopted. When the Bank of England bring me in 100 ingots, they bring me the papers containing the previous reports of Mr. Bingley: I will show a specimen of them [*handing in the same.*] As soon as I have made my report I write upon them what I have found the report of the ingot, and Mr. Bingley endorses on the papers what he considers his report to be; so that between the one and the other, I am able to ascertain whether there has been any deviation or not.

778. Do you and the King's assay-master agree in all cases?—Of course, or I should retry those ingots immediately.

779. Does this paper represent the real value of the gold?—Yes, that is in reality the market report, the report by which the Bank of England buys the ingot.

780. The value there stated is not the actual value of the gold?—As far as it can be ascertained, in consequence of our only going to the eighth of a grain, if there is a quantity of fine gold beyond that report not amounting to 7½ grains, (equal to the eighth of a carat grain,) I give credit to the importer for every portion; that gives a little advantage to the importer; I give it in with that plus upon it.

781. Do you not always leave the report plus for the benefit of the Bank or the public?—Not designedly so.

782. To the extent of that fraction you say you do not come below the fraction

Mr. *John Malebysse Beckwith.*

28 April 1837.

fraction of 7½ grains, and if there is any difference it is always a surplus of that fraction, whatever it is?—Not at all times; it sometimes happens that the report of the King's assayer and mine are precisely the same, and then there is no advantage gained; this is often the case.

783. If you take the average of 100 ingots, do you mean to say that on those 100 ingots there will not be, when you come to mix them for coinage, a considerable surplus?—Certainly there is.

784. Have you any means of ascertaining what is the difference on any number of ingots manufactured?—No, I cannot say; sometimes there is a greater, sometimes a less advantage, but I think the average may be thirty or forty eighths, or even occasionally fifty eighths of a carat grain in the hundred ingots.

785. By examining the ingots in the different pots, can you on the average state what the surplus really is?—Certainly.

786. Who gets that surplus?—The importer into the Mint, be he who he may, usually the Bank of England.

787. Can you state what surplusage the Bank of England have got on the total coinage for any time?—I could in one coinage perhaps, but it would be impossible on a series of years; it is morally impossible to go through it; but an average of the whole might be taken.

788. Mr. *Herries.*] Cannot you form a very near estimate of the advantage derived?—Yes; an eighth on forty ingots in every hundred would be about the fair average, that is, seven grains and a half, or the eighth of a carat grain.

789. Are you to be understood that you estimate the gain as seven grains and a half on 40 ingots?—Yes, on each ingot of the 40 ingots.

790. What is the value of that?—It is about 2 *d.* a grain, about 1 *s.* 3 *d.* on each pound weight, or about 18 *s.* 9 *d.* on each ingot.

791. Mr. *Hume.*] Are the Committee to understand that on the average of each hundred ingots there are only 40 surplus to that amount?—That is the fair average.

792. Mr. *Herries.*] You are speaking of what takes place when you report to an eighth; when you reported to a quarter only, the proportion was larger?—Yes, double.

793. Mr. *Wall.*] What is the number of people employed in the master's assay office as compared with those in the King's assay office?—I have only one man attached to the office; I have also a person occasionally, when I have necessity for it, it has happened occasionally, that when very busy I have had a man permanently with me.

794. *Chairman.*] The allowance of water-silver as a perquisite to the master's assayer has been for a very long time attached to that office, has it not?—From the earliest period of history.

795. Do you see any objection on public grounds to that allowance being discontinued, provided adequate compensation were made to the master's assayer for being deprived of it?—Most certainly not; it would be very desirable it should be so.

796. There is nothing in the way of business which renders it for any public reason desirable that the perquisite should remain to the master assayer?—Most certainly not; I had much rather it was abolished.

797. Mr. *Hume.*] In the return made last year you admitted the receipt of 1,618 *l.* for silver assays. Does that include the money paid by Government on the silver coinages?—Yes.

798. From your experience, can you suggest any mode by which the process of coinage will be simplified and economized, both as to time in the assays and expense in the coinage?—I do not see that it can be at all economized, except the saving of water-silver; but I do not wish to travel out of my own office.

Martis, 2° die Maii, 1837.

MEMBERS PRESENT.

Mr. T. Baring.	The Right. Hon. H. Labouchere.
Mr. Clay.	Sir Charles Lemon.
Mr. Ridley Colborne.	Mr. Parker.
Sir Thomas Fremantle.	Mr. Patteson.
Mr. Hume.	Mr. Wall.

THE RIGHT HON. HENRY LABOUCHERE, IN THE CHAIR.

Mr. *William H. Barton*, called in; and further Examined.

Mr. *W. H. Barton.*
2 May 1837.

799. *Chairman.*] DO you wish to alter or add to any thing you stated when you were last before the Committee?—Yes; on perusing the copy of the evidence, I see there are one or two things which I should have stated at the time, that I should wish to add by way of explanation.

800. Have the goodness to state what those things are?—In the first place, Mr. Hume asked a question, No. 467, "Under what rule or regulation is that division made?" that is in reference to the fees on the private coinages. I ought to have added to that answer, that the authority under which those fees are received is that report of Lord Maryborough's, which was afterwards made an Order in Council on the 17th March 1835.

801. Can you point out to the Committee in what part of that Report that authority is given?—Yes; I find it in the following passage in page 3 of the printed copy of the Report: "In considering the amount of the salaries of the chief officers, I am inclined to leave out of my calculation all fees received by them for private coinage sanctioned by Government, which, generally speaking, are inconsiderable. Such coinage must be considered as an extra duty, for it is no part of their business as officers belonging to the Crown; and moreover, it being certain to cease whenever the circulation of the coin of the realm shall be restored to its natural course."

802. Mr. *Hume.*] In the next paragraph to that you have read Lord Maryborough states that the fees payable for extra work under the authority of the Commissary-general, and the treasury for Ceylon, and our other colonial dependencies in the East and West Indies, should cease after the salaries proposed in his Report were paid. Has that been done or not?—They have ceased entirely, as far as my knowledge goes. I have not known myself any fee to have been received by the officers of the Mint for any of those colonial coinages; which were Government colonies.

803. *Chairman.*] What do you mean by those colonies, which are for Government colonies?—I am not sufficiently alive to the distinction myself.

804. Do you mean by the expression, Government Colonies, those commonly called Crown Colonies?—We receive fees for the British Guiana coinage, that is, a coinage by the colony itself, I mean that we receive no fees on coinages which are ordered by the government here for the public service.

805. You do receive fees upon any coinage ordered by the provincial legislature of any colony, or ordered by any private person under the sanction of Government?—Yes.

806. Mr. *Hume.*] By whose order do you execute that work?—Under the authority of the Lords of the Treasury.

807. Does not the Minute expressly say, that all work performed under the orders of the Treasury should not be charged; the words are these: "For extra work done to the public service, under the authority of the Commissary-general and the Treasury for Ceylon, and our other Colonial Dependencies in the West as well as in the East Indies, must for ever cease?—I should beg leave to refer you to Mr. Morrison for an explanation upon that subject, for these are coinages of which I have had

Mr. *W. H. Barton.*

2 May 1837.

had no knowledge since I have held my appointment, he would afford a better explanation than I can as to what this means; I think it alluded to the commissariat service, the public service; not anything done where the Colonial Governments have been considered in the light of individuals.

808. Though executed under the orders of the Treasury?—We can execute no foreign coinage without the authority of the Treasury; we cannot do any thing without the permission of the Treasury.

809. Mr. *Wall.*] Can you state the average amount of fees received from British Guiana?—It has been under one pound a year since I have held my appointment.

810. *Chairman.*] Are there any other parts in your former evidence upon which you are desirous of making any observations?—In question 500, I was asked, "You state that in one year the profit derived by the King's assayer from water silver was as much as 700 *l.*?" it did not occur to me to say, that in reporting, I spoke of the assayers jointly: the 700 *l.* refers not to the King's assayer alone, but to the two assayers. I wish also to observe, that my object in mentioning the sums as they are given in that Report, using round numbers, was to show the great fluctuation which the supply of this commodity has been liable to in the time.

811. Is there any other point to which you wish to call the attention of the Committee?—In questions number 538 and 539, I am asked, with regard to Mr. Field, "Is he also a mechanist, and has he a salary upon the establishment as such?" I have replied, no; that the regulation is, that he shall do it himself, or procure it to be done by some person who is competent to it; the regulation referred to, relates more particularly to the adjusting the beams in the office at the time of weighing, for which he formerly received a fee of 10 *s.* on each importation, and each delivery. Some inconvenience having arisen from this mode of compensating him, Lord Auckland, when Master of the Mint, recommended to the Treasury that this fee should be commuted, which it was, at his Lordship's recommendation, for 100 *l.* a year. The repairs of the beams in the office, and of the assay beams, are quite a distinct thing, for which he makes a separate charge.

812. Mr. *Hume.*] Is that the small fee which he received on weights stamped by the 15 Geo. 3?—No; it includes the fee paid formerly to the scale-maker, who used to attend.

813. Will you refer to the return before Parliament, in which it is said that Mr. Field received a salary, fixed the 14th February 1834, of 100 *l.*, in lieu of the fees received on weights stamped by the 15 Geo. 3?—The allowance of 100 *l.* a year has no reference whatever to this fee; this is not the fee referred to.

814. Why is a note made in that Return to the 100 *l.* salary of Mr. Field, as stamper?—The fact is, that there has been an oversight committed there both on the part of the Mint and the Treasury, for by the Act of Parliament of the 57 Geo. 3, c. 67, which regulates the office held by Mr. Field, no salary was to be given to the stamper of money weights after the existing interest in the office should cease; but when the question of commutation of this other fee which is referred to, the fee on the weighing in of the bullion, and the weighing out of the coin, was proposed, instead of calling it a commutation for that fee, it was given under the title of stamper of money weights, he having no salary as such; but since then we have discovered, that both the Mint and the Treasury were in error in doing so.

815. How do you mean in error?—In assigning to the office of stamper of money weights a fixed salary, while there was an Act of Parliament in existence declaring that no salary shall be granted to that officer in future, after the person holding the office of stamper of money weights should make a vacancy by death or otherwise, although the salary to the stamper of money weights is abolished, yet he is still allowed to charge a small fee for stamping the weights, the little money weights sold in the shops for the sovereigns and half-sovereigns.

816. Does that Act of the 15 Geo. 3, authorize the Mint to issue those weights, for the weighing of sovereigns and half-sovereigns, to which you allude?—It authorizes the stamper of money weights to put a stamp upon all such weights as may be brought to him from time to time by the scale-makers, and for which he receives a small fee.

817. The 100 *l.* he received in 1834 was not a commutation for this, but a commutation for the payment of money received for coinage?—It was a commutation

for

Mr. *W. H. Barton.*

2 May 1837.

for the fee which he received for every importation of bullion into the Mint, and on every delivery of coin out of the Mint.

818. Those fees have ceased since the salary has been paid?—They have.

819. Mr. *Hume.*] There is an allowance stated of 20 *l.* for an office; how does that arise?—It was represented at the time that he had no office, that he was obliged to stamp those weights which were brought to him in his private residence, and that his furniture suffered from people coming; Lord Auckland recommended that he should have an allowance of 20 *l.* a year to reimburse him.

820. The duty expected to be done in that office was the stamping of weights for the scalemakers?—Yes.

821. Did he there do any business for the public?—This was considered a business for the public.

822. Did he stamp any weights there for the Mint?—Our weights are not stamped. The fee is so small that it is not sufficient even to pay him for the trouble of the stamping.

Mr. *Thomas Pearson Croasdaile,* called in; and Examined.

Mr. *T. P. Croasdaile.*

823. *Chairman.*] WHAT situation do you hold in the Mint?—King's clerk and clerk of the papers.

824. How long have you held that situation?—Eighteen years; that was my first appointment in the Mint.

825. What is the salary attached to the situation you hold?—400 *l.* a year.

826. Have you any house?—I have.

827. Have you any fees or other emoluments besides your salary?—Nothing beside 4 *l.* 10 *s.* a year for stationery.

828. Are you a board officer?—I am; and I act as secretary to the Board.

829. Do you take any share in the private fees?—I do not.

830. Have you any other fee or emolument of any sort whatever?—No other.

831. What is the tenure of your office?—By warrant signed by the King, by the treasury constitution.

832. Have the goodness to state to the Committee what are the duties you perform?—To attend the weighings in, and enter in the ledger book an account of all such bullion of gold and silver as shall be brought into the Mint, describing the weight and fineness as reported, the parties' names that brought it, and the day. Secondly, to deposit at the office of receipt, in the stronghold of which he shall possess a key, in conjunction with the deputy master and comptroller, the bullion, after it shall have been weighed with the weight and assays reported, there to remain until it is required to be delivered over to the deputy master for the meltings. Thirdly, in conjunction with the comptroller, to take an account of the ingots delivered to the melter, as set down in the pot-book, and to examine the calculations of the pot-book as to the quantities and fineness of all manner of gold and silver, and alloy put to each pot, and to subscribe the same with his initials. Fourthly, to attend the pix and deliveries of monies, and record the same, and agree the master melter and moneyer's balances up to the end of every month. My duties as clerk of the papers are, to see that the entries in the record-book of all office letters, papers, appointments, warrants, and proceedings of the Board, are properly made. Seventhly, to act as secretary to the Board.

833. You have signed a report, in conjunction with Mr. Barton the comptroller, to the master of the Mint, which has been laid before this Committee in November last?—I have.

834. Do you retain the opinions you expressed on the subjects contained in that report?—As far as relates to my own office, by directions of the deputy master, we made a joint report; the duties of my office are much more limited than those of the comptroller; the chief part of the regulations suggested there are from the comptroller, not the King's clerk.

835. Do you mean, by that answer, to say that you do not wish the Committee to understand it as expressing your opinion on such matters that are reported as do not refer to your own office?—Yes, just so; each was directed by the master of the Mint, to report on his own office, and that I have done.

836. Mr. *Hume.*] You state that you enter in a ledger book the weight and fineness of all gold and silver bullion received; on whose assay do you enter that?—On the report of the master's assayer.

837. Does the King's assay master make any report to you also?—No.

Mr. *T. P. Croasdaile.*

2 May 1837.

838. Do you ever see the King's assay master's report of the same bullion, of which you keep the master assayer's reports?—Of the silver we do.

839. Why of the silver?—We can see it both of the gold and silver; but then we never rate the importation by the King's assayer; it is always by the master's assayer's report we rate the importation.

840. Have you an opportunity of comparing the two to see whether any difference exists in the declared fineness of the metal?—We might make calculations that way; but there is no necessity for so doing, as we are bound to abide by the master's assayer's report.

841. Do you mean to say that the pots are filled with ingots by the master assayer's report, without reference to the King's assayer's?—Yes.

842. Are you aware whether any difference exists between the fineness of the metal, and the actual report of the master's assayer?—Sometimes there may be a difference, but he reports as nearly as possible what is in the pots, he cannot report exactly, he combines ingots together where there is a surplus, and sometimes gains on one; then he adds that where there is a deficiency on the other, so that they may count as near zero as possible, as we cannot report within the eighth of a carat.

843. Do you mean to say that the King's assay master is not used as a check to the master's assayer's report in making up pots for melting?—It comes to that after being melted, he checks them when they are melted into bars.

844. Not until it comes from the melter?—No; it goes to the King's assayer from the melting house.

845. The Committee are to understand the assay of the master assayer is made from the ingot before it is melted, and that of the King's assayer is from the metal taken from the pot?—After the alloy is added he gives his report before it goes into work.

846. Do you not enter into your pot-book the value of each ingot, plus or minus standard?—Yes, we do, according as it is better or worse.

847. Will you explain to the Committee how that is done; is that the mode in which the entries are made? [*A paper being shown to the witness.*]—No, not in the pot-book; in the pot-book there is an importation of perhaps 100 ingots; there are so many in each pot, and there is a writing on each ingot whether better or worse, and then at the end those pots will come out exactly to a grain what the importation was: this is not the way in which we do it; sometimes there is alloy added to the scissel according to the assayer's directions.

848. Will you look at that paper: is that the way in which you keep it?—Yes; here is the gross weight.

849. Here is a paper purporting to be pot No. 8, on the 5th of March 1825, in which there are ingots 94 lbs. 2 oz. 9 dwts.; of alloy, 7 lbs. 5 oz. 18 dwts. and 11 grains; total weight 101 lbs. 8 oz. 7-10; have the goodness to explain that operation?—The gross weight is 94-2-9.

850. How is that made up?—The gross weight is the exact weight of the ingot before it is weighed at all; then we put marks for better or worse on each side of the ingot to make up the exact balance.

851. If on adding up you find, as in that case an excess, you add some alloy to bring it to the standard?—This is our calculation; we add alloy to bring it to the standard of 101-8-7-10 exactly the standard.

852. In the addition of the alloy, is there any profit arising to any individual from the difference between the actual value and that which the merchant has received?—None whatever; the merchant brings his ingots in, we will say twenty or thirty, and that is rated as standard by the comptroller and myself; the merchant sits opposite, the calculations are made, and the standard weight is produced; and that is the return the importer gets paid for.

853. Are the Committee to understand that your pot-book is kept regularly in that form, and that it will show the real weight of the ingots, and the amount of alloy added to every pot?—It will; and the account is fixed by the comptroller and myself.

854. Will you state whether any account is kept of the scissel gold and silver?—The scissel is returned from the moneyers' book to the melters to be remelted.

855. Do you enter the amount of the alloy added to each pot of scissel?—No.

856. Who keeps that account?—The surveyor of meltings, Mr. Buchan.

857. Mr. Buchan keeps the record of the alloy added to the pots of ingots as well as scissel?—Yes, he does.

858. You

Mr. *T. P. Croasdaile.*

2 May 1837.

858. You state that you attend to the balance of the account of the melter and moneyers?—Yes; at the end of the quarter.

859. You keep a quarterly account?—Yes.

860. What does that account show?—It shows the quantity of money and the amount to be paid on the quantity of money coined that quarter.

861. Does it show the amount of metal given to him, the amount of coin returned, and the charges the moneyers are to receive?—Yes.

862. Where are those kept?—We keep them in our journals and ledger.

863. They form the documents on which the Board make up the accounts?—Yes.

864. What are your duties as secretary to the Board, separate from the other departments of duty you attend to?—Under the direction of the deputy master, to make any minutes that are necessary.

865. Do you in point of fact meet weekly, or every fortnight?—Weekly; every Wednesday.

866. Do you make an entry of those who attend at the Board?—Always.

867. If any resolution is agreed to, it is entered as such?—It is entered under the head of the Minutes of that day.

868. And you are charged with that duty?—Yes.

869. Those books are kept in the office for any number of years?—For many years back.

870. When any communication takes place with the master, is a copy of the correspondence entered as part of the Minutes or in a correspondence book separate?—The whole is in the record book. Latterly the correspondence of the Board has been very extensive; they are not always under the head of the Board, but numerous letters entered by the deputy master's clerk and answered by the deputy master, which are not read at the Board.

871. Mr. *Wall.*] So that in point of fact you do act as secretary to the Board?—I do.

872. There being no other secretary?—No; it is part of my duty.

873. Mr. *Hume.*] Is that correspondence which is carried on by the deputy master's clerk considered as proceedings of the Board, and entered as such by you?—No; there is numerous correspondence between the master and the deputy master which is not read at the Board, but is entered by the deputy master's clerk in the record book; that is, during the whole week.

874. Is that considered by the Board as the proceedings of the Board or not?—There is numerous correspondence, of which the Board has no cognizance scarcely.

Mr. *William Thomas Brande,* called in; and Examined.

Mr. *W. T. Brande.*

875. *Chairman.*] WHAT situation do you hold in the Mint?—Clerk of the irons and superintendent of the machinery.

876. How long have you held that situation?—About ten years.

877. Were you connected with the Mint in any other capacity before you were appointed to that situation?—No.

878. What is the salary attached to that situation?—700 *l.* a year is the whole salary; 200 *l.* as clerk of the irons, and 500 *l.* as superintendent of machinery.

879. Have you a house at the Mint?—I have.

880. Have you any fees or other emoluments whatever?—None.

881. Are you a member of the Board?—Yes.

882. Do you take any share of the private fees as a member of the Board?—I have on two or three occasions received a trifling fee on account of some foreign coinage.

883. What is the tenure of your office?—A treasury warrant.

884. Have the goodness to state to the Committee what are the duties which you perform at the Mint?—As superintendent of the die department, I have the management of everything that relates to the manufacture and care of the dies, excepting those matters which belong exclusively to the chief engraver. I have to purchase the steel for the manufacture of dies, to see that they are properly made, to keep the accounts of the die office, to receive the dies when they are returned from the money presses, to retain them in my office till it is deemed expedient to destroy them, and when I think that such is the case, to give notice to the comptroller and the deputy master, who are required to attend to take an account

Mr. *W. T. Brande.*

2 May 1837.

of the number of dies manufactured, to compare them with those destroyed, and to examine as to the correct number of those which remain on hand.

885. You have also duties connected with the superintendence of the machinery?—I have.

886. Have the goodness to state to the Committee what those duties are?—My business, as superintendent of machinery, is to see that the whole of the machinery is kept in perfect working order, and that the different engineers and other artificers connected with it perform their various duties in regard to it. This I do partly in conjunction with the company of moneyers.

887. Will you explain what you mean by saying that you perform this duty partly in conjunction with the company of moneyers?—There are certain expenses respecting the machinery which are borne by the moneyers; and when it is my business to recommend that any expense should be incurred on their account, I consult them upon the subject.

888. Do you mean that when an expense is to be incurred on account of the company of moneyers, it is your business to order and superintend the repair of the machinery?—Yes.

889. The regulations with regard to the liability of the Mint, or the company of moneyers, to repair and keep in order the machinery, are prescribed in the indenture; are they not?—They are.

890. Do you think they are prescribed in that instrument with sufficient clearness and accuracy?—I do not.

891. Have you found, in the course of your experience, that difficulties have arisen with the company of moneyers occasionally, with reference to whose business it was to incur certain charges with regard to the machinery?—I think the question has never arisen till lately. In general I have acted as a sort of arbitrator between one party and another, that is, between the Government and the moneyers, and they have invariably made any repair I have suggested. But lately a question has occurred respecting the repair of a considerable part of a steam-engine, as to whom the expense is to fall on; and I believe the subject is now before the solicitor of the Mint.

892. Mr. *Hume.*] What rule have you laid down for yourself as to the words which are in the indenture, when the Mint is at work, with regard to the charges to be paid by the public and by the moneyers?—That relates to the wages of the artificers.

893. Mr. *Clay.*] What artificers?—The artificers employed in keeping the machinery in repair.

894. *Chairman.*] Are those artificers the servants of the Mint, or of the company of moneyers?—They are considered as partly belonging to the one and partly to the other.

895. By whom are they engaged?—The principal artificers are engaged by the Mint.

896. By whom are they actually paid?—They are paid by the Mint.

897. Are the payments made by the company of moneyers to the Mint upon those occasions where they are chargeable to the moneyers, or are they paid directly by the company of moneyers in these cases?—It was proposed at one time, that when the Mint was at work a certain part of the charge should fall on the moneyers, and a certain part on the Mint.

898. Have the goodness to describe the system on which the artificers are actually paid at the present moment?—The artificers are paid by the moneyers when a certain amount of coinage is performed in the year.

899. What amount is that?—I am not aware at the present moment; there is a table drawn out, by which the regulations are made, which has been our rule about a couple of years, in order to put an end to the difficulties we were under with regard to the Mint being or not being at work.

900. Mr. *Clay.*] In an account rendered of the wages paid for keeping the machinery in order, in the year 1835, there was a charge to Government of the sum of 591 *l.* 4 *s.* 3 *d.*, as the proportion payable by Government of the wages of the artificers during the year 1835, and during the same year there was charged, as the proportion payable by the moneyers, 309 *l.* 13 *s.* 8 *d.*; have the goodness to state to the Committee by what rule you made that division of the expense?—That is a financial matter, on which I think Mr. Morrison or Mr. Barton can give better evidence than myself; they can give the history of the whole question.

901. Mr. *Clay* (to Mr. *Barton.*)] You stated to the Committee that the wages of the artificers employed in keeping the machinery of the Mint in order in the

the year 1835 was divided according to the rule of the Government paying five-eighths, and the moneyers three-eighths of the whole amount?—Those accounts are made out quarterly; therefore I cannot exactly say that it was five-eighths and three-eighths for the whole year; it may be three-eighths another quarter instead of five-eighths, according to the quantity of coin; the sums charged are paid under the minute of the Board, dated the 19th June 1833. [*Delivering in the same.*] I gave an instance, that if the coinage amounted to a certain sum in a certain quarter, the payment would be a certain amount.

902. Have the goodness to explain to the Committee upon what principle the sums stated were apportioned to the Government and to the moneyers respectively?—This account is returned quarterly; the sum quoted is the total amount of the four quarters; the quarterly sums correspond with that scale.

903. Can you state to the Committee what was the proportion each quarter?—In the quarter up to the 31st March 1835, the Government paid the moneyers five-eighths of the wages; in the quarter ending the 30th June the Government paid one-half; in the quarter ending the 30th September, the Goverment paid seven-eighths; and in the quarter ending the 31st December, the Government paid five-eighths.

904. The minute which you have given in will explain precisely the rule by which those proportions are allotted?—Yes.

905. When you mentioned that a difference of opinion, as to the expense of machinery, has arisen between the members of the Board and the moneyers that relates to the sums expended on the machinery itself, and not to the wages of the artificers employed to keep it in order?—The difference alluded to, relates particularly to the expense incurred in doing certain repairs of machinery, and has no reference whatever to the wages of the work people.

906. *Chairman* (to Mr. *Brande*).] You have heard what Mr. Barton has stated; have you any observations to make on that statement?—I beg leave to observe in regard to it, it relates only to a certain small number of the workmen employed by Government; the majority of the persons employed in the absolute work of the Mint, are exclusively under the pay of the moneyers.

907. What is the distinction between those workmen that are exclusively under the pay of the moneyers, and those paid partly by the moneyers, and partly by the Mint?—The latter are said to be on the establishment.

908. Upon what principle is that distinction drawn of placing a part of them upon the establishment, having them paid partly by the Mint and partly by the moneyers, and having others who are wholly employed by the moneyers?—I rather think those were persons who came originally with the machinery from Birmingham, or their successors, and that a certain number of men have been always retained upon their place.

909. Do you mean to say that those who came from Birmingham, and those whom you term their successors are wholly paid by the moneyers?—No; those are the persons whom we have just been discussing.

910. Is there any distinction between the duties performed by one class of persons and the other?—To some extent there is.

911. To what extent?—There are certain persons employed by the moneyers; for instance, in annealing, in cutting, in drawing, in rolling; persons who are merely employed in reference to the coinage; when it is going on, those are persons entirely under the pay of the moneyers, with whom we have nothing to do.

912. Those persons are taken by the moneyers when they want them, and discharged when they do not want them?—Yes, and they are partly retained by them.

913. What are the duties of the persons who are partly employed by the Mint, and partly by the moneyers?—They are persons constantly employed in keeping the machinery in order.

914. Consequently they are retained necessarily all the year round?—Yes; I wish that it should be understood that, as to all the men employed by the moneyers, we are not under the difficulty just adverted to.

915. Are you able to state to the Committee what is the number of workmen employed at the Mint, of that class paid for partly by the moneyers and partly by the Mint?—There are three principal artificers, three under artificers, and one engine man.

916. Do you know what is the total annual sum paid to those persons as wages?—It is shown in the Report.

Mr. *Barton.*] It is about 900 *l.* a-year.

Mr. *W. T. Brande.*

2 May 1837.

917. Mr. *Hume* (to Mr. *Brande.*)] Do you see any reason why all the artificers in the Mint should not be on the same footing?—No, I do not.

918. Would it not tend much to simplify the proceedings in the Mint if such were the case?—I think it would.

919. Mr. *Clay.*] The Committee understand there is a difference of opinion between the master of the Mint and the company of moneyers, respecting a sum of money laid out in the repairs of the machinery, as to the party by whom it should be paid, what is the amount of that sum, and for what object was it expended?—A part of the steam-engine called the slide, is worn out, and it is necessary it it should be replaced by a new one.

920. Has it been so replaced?—This I represented to the Board, and then a discussion arose as to whom the expense was to fall upon, the Mint or the moneyers. I found that discussion not likely soon to be settled, and therefore again represented to the Board that the machinery was not in a fit state to work unless that repair was made; I was then ordered by the Board to let the repair go on, and that it should be done upon an understanding that the Mint or the moneyers were to pay for it afterwards, according to the determination of the opinions that were then taking upon the question; so that in fact the repair is at this moment making, at an expense, I should presume, of somewhere about 30 *l.*

221. Mr. *Hume.*] Is that all the amount in dispute?—That is all the amount at present in dispute.

922. Mr. *Clay.*] Have you been called upon for an opinion as to the party by whom that should be paid?—I have; my opinion was, that it should be paid by Government.

923. On what ground did you give that opinion?—Because it was a part of the engine entirely worn out; the moneyers have gone on, at their own expense, repairing the old slide as long as it would last, and when it would work no longer it became necessary there should be a new one, and being a piece of new machinery I conceive the Government ought to pay for it.

924. Mr. *Hume.*] In your Report to the master, you offer suggestions with regard to certain classes of work being done under one roof; you state that there are some important points connected with the die department of the Mint, to which you have occasionally directed the attention of the Board; will you state what are the inconveniencies arising from the existing buildings, and what suggestions you would offer?—The difficulty under which we labour in the die department is, that the whole business of the department cannot be carried on in one part of the building, but we are necessarily sending our dies over the whole Mint for effecting different purposes, and before they can be completed.

925. How does that arise?—It arises in the first place from a necessity of sending them to the engraver, who only has his house to work in, so that they go from our office into his dwelling-house.

926. Do you suggest that he should have an office under the same roof with the other branches?—I think that would be a great convenience.

927. Do not the present buildings admit of that?—A plan for the enlargement of the present die office was sent in to the Treasury some time ago, which I understood was approved of, but has never been carried into effect.

928. Are the Committee to understand that the present dies are forged and turned in one place, brought up from the punches and annealed, hardened, and kept in another, polished in a third, lettered in a fourth, and submitted to the inspection of the principal engraver in a fifth department?—That I believe is precisely the case.

929. *Chairman.*] Has any loss or practical inconvenience ever been felt to result from that?—I think no loss, but great practical inconvenience.

930. Mr. *Hume.*] Do you not consider that considerable loss of time and labour in removing from place to place, must occur in such an arrangement?—Certainly, the whole of the buildings of the die department are, in fact, constructed and arranged inconveniently.

931. What are the distances from each of the places which have been mentioned?—I think the distance from the die-office to the rooms in which the dies are polished, must be the length of Westminster Hall.

932. *Chairman.*] Are you aware what the estimated expense of those alterations which were suggested was?—I do not recollect.

933. Mr. *Hume.*] You stated, that if the whole were brought under one roof, which

which might be done by raising another floor to one of the buildings, greater security would arise as well as a saving of time?—I think that such is the case.

934. Do you mean, that the same building in which the principal part of the work is done might be rendered sufficient for the whole if an additional floor or two were added to the building?—No, but would, at all events, enable the engraver and the polisher to come within the building, which would be a great advantage.

935. Do you apprehend any inconvenience has ever arisen from any dies being purloined or removed?—I think not.

936. What do you mean by the danger that would arise from that improvement not being made?—We have very great difficulty in exercising sufficient vigilance over our dies in the present arrangement of the die-office. We are obliged, when the Mint is in full work, to have a daily and weekly account drawn up of the state of the dies, to know the exact number in one place and in another; and unless we were very vigilant in looking after them, I think they would occasionally be missing; that labour might be considerably diminished by having a proper die-office.

937. Have you ever visited any department at Manchester where dies are generally used?—No.

938. Who is the chief engraver at the present moment?—Mr. Wyon.

939. Have you any other engraver on the establishment?—An assistant engraver, Mr. Merlin.

940. You state that the chief engraver is obliged to perform the business in some room of his private dwelling?—That is the case.

941. Where does Mr. Merlin perform his duties?—Mr. Merlin has a room on the other side of the Mint, taken, I believe, off the moneyer's offices.

942. What part of the engraver's duty has he to do?—He has to letter some of the dies, and to look to the work generally of those dies which are brought up from his matrices; that is, from the matrices and punches of his work.

943. Does he work under the direction of the chief engraver?—I believe he does.

944. How can the chief engraver superintend the work at the extremes of the buildings, as you have stated, without great loss of time?—I presume he cannot, but I had rather the chief engraver should answer that question himself.

945. *Chairman.*] Mr. Merlin generally makes the reverses of the coin?—He does, many of them.

946. Mr. *Hume.*] Are the Committee to understand that that state of things is inconvenient to the chief engraver, and unsafe, moreover, as relates to the custody of the punches, matrices and dies?—I think it is.

947. Where are the ancient punches and dies kept?—The few which we have, and also a very valuable collection of modern matrices, punches and dies, are kept in the Board-room of the Mint.

948. At what distance is that from the die-office?—It is quite unconnected with the die-office.

949. Under whose charge are they placed?—They are at present, I believe, under the charge of the chief engraver, the comptroller, and one other officer of the Mint; I really do not recollect whom.

950. Are you aware what arrangement was made for preserving the dies by the Mint at Paris, or any other mint?—Yes.

951. How are they kept as compared with the manner in which they are kept in the Mint in London?—I have not seen them for many years in Paris; but when I did see them they were kept in cases, catalogued, and were accessible to all persons on proper application.

952. The Committee are to understand that a person going to the Mint at Paris might see the dies from which any coin in the series had been struck without difficulty?—I believe that to be the case.

953. Could you add that to your establishment?—Yes, without difficulty.

954. There might be a regular inventory of all the dies, and that arranged in such a manner as to afford ready reference?—Yes.

955. What advantage do you consider would arise generally to art, particularly with reference to those who make that branch their study, by arrangements similar to that in Paris?—I think the history of the coinage is at all times a very interesting matter of inquiry; that history is very much illustrated by a knowledge of the manufacture of dies, which such a collection tends to afford.

956. You are of opinion that the Mint is a fit and proper place in which a series of that kind should be kept?—I think so.

957. Do you know whether it is kept in other countries; Holland, for instance?—I believe

Mr. *W. T. Brande.*

2 May 1837.

I believe generally there is an arrangement of that kind, a collection of dies attached to the Mints; if I recollect right, I have seen such a collection at Milan.

958. Would the present space within the walls of the Mint admit of that arrangement which you have stated as likely to be conducive to facility, security and economy in the conduct of the department?—I think that the present Board-room might afford accommodation for the purpose; but that the collection would be more useful, and probably more accessible, if it were in a room attached to the die-office.

959. Mr. *Wall.*] Would there be facility for building such a room?—I am informed that it might be done.

960. Without any great inconvenience or expense?—Without much inconvenience; the expense, I am afraid, would be considerable.

961. Mr. *Hume.*] Are there any plans you are acquainted with which enable you to know the exact state of the under-ground within the Mint walls?—None at all.

962. Is not a knowledge of that necessary in case you are altering or increasing your machinery?—Certainly.

963. Are you aware of any plan existing at present of the state of the foundations of the buildings within the walls?—I have heard that such a plan exists in Mr. Smirke's office.

964. To Mr. *Morrison.*] Are you aware that the Board have at any time had those plans before them, or made application for them?—I never knew the Board, as a Board, make an application for them. I, on the part of the master of the Mint, have made application for them.

965. What answer have you received?—I do not know; sometim s it has been put off as it were. I have gone so far as to say, I wished copies to be made, and a regular account of the expense to be transmitted.

966. In applying for them, did you consider that their possession would facilitate your consideration of the necessity or the propriety of any alteration in the enlargement of the works within the walls?—I did; that we might have them, if any consultation was held as to any alterations.

967. To Mr. *Brande.*] Have you, in addition to what you have stated in the report, any suggestions to give as to facilities or improvements connected with your department?—None, I think, except with reference to matters which have been already before the Committee.

968. Mr. *Wall.*] With regard to the question of the machinery, to which you have referred in the early part of your evidence, you stated that the question had been referred to the solicitor of the Mint; do you apprehend that his decision, whatever it may be, will be acquiesced in by both parties?—From what has transpired, I apprehend not.

969. What will then happen?—I presume that counsel's opinion will be taken upon the subject.

970. Mr. *Hume.*] Are there any officers under your charge within the Mint?—The whole of the workmen in the die department are under my charge.

971. Are the engravers also under your charge?—No.

972. Are all, except Mr. Wyon and Mr. Merlin, under your charge?—Not all the others; there are certain persons in Mr. Wyon's exclusive employ as engraver; but all the persons concerned in the manufacture of dies are under my direction.

973. In what way do these individuals act, being partly under Mr. Wyon's orders, and partly under yours, in executing public business?—They act distinctly under both our directions.

974. What is the line of distinction where you have had, in the course of your duty, to interfere with those employed by Mr. Wyon? Has that been well defined?—We never had any difficulty, on the subject.

975. Have you any rules or regulations by which your respective authorities are defined?—I think not.

976. The duties of the foreman of the die department, and the duties of other persons employed in the department, are defined by the order of the Board of the 14th of October 1835. Is there any minute of the Board defining specifically what your duties and authorities shall be?—There is in the indenture; nowhere else that I am aware of.

Jovis, 4° die Maii, 1837.

MEMBERS PRESENT.

Right Hon. Henry Labouchere.	Sir C. Lemon, Bart.
Mr. Clay.	Earl of Lincoln.
Mr. Herries.	Lord Lowther.
Mr. Hume.	Mr. Parker.
Sir Thomas Fremantle, Bart.	Mr. Baring Wall.

THE RIGHT HON. HENRY LABOUCHERE, ESQ., IN THE CHAIR.

Mr. *John Field*, called in; and Examined.

Mr. *John Field*.

4 May 1837.

977. *Chairman.*] WHAT situations do you hold in the Royal Mint?—The situations of weigher and teller, and stamper of weights.

978. How long have you filled those situations?—Twenty-two years the situation of weigher and teller, 16 years stamper of weights.

978 *. What are your duties?—To attend the summons of the warden, master and comptroller, and to have the duplicate weights in his possession compared with the standard weights at the office, at least once a year. Second, To adjust the duplicate weights by the said standard weights, that all weights for weighing gold and silver money may be regulated by the said duplicates. Third, To stamp the weights made use of in weighing the money, receiving a fee of one penny on every 12 weights stamped or marked, pursuant to Act 15 Geo. iii. cap. 30. Fourth, No other weights but those stamped by the stamper of weights to be accepted by law for determining the weight of the coins; and persons counterfeiting the stamps or altering weights so stamped, to be fined and imprisoned. Fifth, Not to interfere with the rights of the Founders' Company, if they have their weights sized and marked as above. Sixth, To receive the salary allowed to his office, from the warden or his deputy.

979. What is the salary attached to your offices?—As weigher and teller, 200*l.* per annum; and, on my appointment in 1815, the full understanding that as the salary was put upon the lowest possible scale, at the expiration of 10 years' service I was to receive an additional sum as shown in the scale established in 1815; but which has unintentionally been allowed to lapse. As stamper of weights I receive a salary of 120*l.*, which includes 20*l.* for an office; but this sum of 120*l.* was granted only in 1834, though appointed in 1821, and should then have been attached to the office of weigher and teller, which I will explain, as it refers to the question of fees and emoluments. In 1815 I received an allowance for the care of adjusting and examining the balances, &c., which arose from my having for some years applied myself to mechanics, as an amusement, and the Master of the Mint considered it would be a greater public advantage that the scales and weights should be adjusted and cleaned by some one attached to the department, rather than by a scale-maker out of the Mint, who might not be always at home to render the immediate assistance often necessary, and therefore requested me to undertake it, which I did, at the reduced charge of 10*s.* each importation and delivery of bullion and coin, instead of 18*s.*, the sum charged by the scale-maker; but during 1820 and 1821, owing to a coinage for private individuals;—it being necessary to see the beams and weights put to point between each importation and delivery, whether for one ingot or 100, the amount of my bill exceeded what the late comptroller considered necessary for the duty performed, as the newly-invented beams did not require quite so much attention and adjusting as the old ones, and therefore suggested to the Board that the charge for such examination should be proposed to the Master to be commuted, which was done in 1834, by nominally giving a salary of 120*l.* per annum to the office of stamper of weights, but which I believe is virtually considered as added to that of weigher and teller, for doing away the above charges.—In my office of stamper of weights, I am still entitled to receive a fee of 1*d.* per dozen from individuals bringing correct weights to be stamped, but this sum could never be expected to remunerate any one for his trouble; it could only have been ordered to have been paid by Act of Parliament when there was a regular salary paid to the officer holding the situation; my predecessor received 250*l.* per annum, and a

Mr. *John Field.*

4 May 1837.

gratuity of 25*l.* per annum, and 30*l.* for an office; but at that time the office was considered a sinecure, the Bank being restricted from cash payments, and after the then existing interest the salary was abolished; subsequently the Bank having resumed cash payments, necessarily a great demand arose for money weights, and the office being refused by other resident officers, was offered to me, which I accepted, with the hope that a salary might be obtained, as the office was now anything but a sinecure; but none was allowed for 13 years, when 120*l.* was given, being the sum now paid instead of the charge for care of adjusting and examining the beams, as before stated, and which therefore properly belongs to the weigher and teller for the loss of that emolument.

980. What is the annual amount of Fees which you have received for stamping money weights?—I cannot tell; it is very trifling, it is hardly worth a name.

981. Is it 10*l.* or 20*l.* a year?—No, it cannot be that.

982. Mr *Hume.*] By what authority do you exercise the office of stamping weights?—By Act of Parliament; there was an Act of Parliament granted for it.

983. What Act?—The 15 Geo. 3, c. 30.

984. *Chairman.*] Have you a residence in the Mint?—Yes.

985. You have introduced several improvements in your department, will you have the goodness to state what they are?—The first was in the year 1818, a beam on a new principle, which, by actual experiment shows a saving of one-third of the time formerly required, and, by being more accurate, avoids disputes in the re-weighings, as they always agree with the original weight, which was never the case with the old beams, they always varied considerably, from five pennyweights to ten pennyweights in a draft.

986. What has been the effect of this improved balance?—A saving of considerable time, at least one-third, both to the public and to the Mint officers, and an actual saving of precious metal, by its accuracy, compared with the Bank scales, making an average difference of from one pennyweight to 25 in the draft; which with the difference partly of the Bank not weighing so close formerly as they do now, a large sum has accrued to the public; I allude to the double weighing, which I proposed in order that this surplus weight be brought to the public account, and which in six years gained 1,000*l.* to the advantage of the public, and is still going on.

987. Mr. *Hume.*] How does that surplus weight and profit arise?—The Bank when they purchase silver or bullion do not weigh so close as we do, and therefore I proposed re-weighing it, in order that the surplus might go to the public; it is an additional duty that I have no business to do, but I thought that it was such an advantage to the public that I ought to do it.

988. Does not the Bank send in the ingots according to the Paper delivered in by Mr. Bingley?—That is as regards the fineness, but this is with regard to the weight they bring in; now they weigh much closer than they did formerly; that is, for any weight under 10 pennyweights they made no charge, but now if it weighs five pennyweights they do.

989. Is it not your duty to give the full weight to the importer?—I give the weight according to the usage of the Mint, making a draft of about three pennyweights.

990. Then that draft above three pennyweights you have made as a profit to the Mint, not of the importer?—No, not of the importer, the Bank had no more for it, though they weighed five pennyweights, or from 5 to 25 pennyweights; but it went to the Mint, and thus by this second re-weighing it went to the public.

991. Mr. *Herries.*] In point of fact, the Bank received from the Mint credit for the weight at which they had purchased?—Yes.

992. So that the Bank lost nothing, though the public gained something?—Exactly.

993. Mr. *Hume.*] Do you make a report to the Board of that surplus regularly?—The board officers take it down.

994. What board officers?—The deputy-master or his clerk, the comptroller and the King's clerk take it down from my report.

995. Do you apply the surplusage to gold as well as silver?—No; the Bank brought the gold ingots and I weighed them, and they took it from my weight, which was very near to their own.

996. Then your observations apply to silver alone?—They do.

997. Mr. *Hume* (to Mr. *Barton.*)] Are you aware of that surplusage in weighing silver which Mr. Field has stated, and can you state whether a record

is

is kept of the quantity, and to what account it is brought?—Formerly, I think, there was a record kept, but at present we enter the full weight of the ingot in the journal at the time that the draft is made, but the difference is exhibited between the bill which is rendered from the Bank of England, which gives the purchase or Bank weight of the ingot and the Mint weight; we debit the Master of the Mint with the weight declared by the Mint weigher and teller, the gain by which, as Mr. Field states, owing to the Bank weighing much closer than they did formerly, amounts to very little in comparison with what it was then; it is recorded in that manner. It is involved in the difference between what we call the purchase standard of the ingot and the Mint standard; it is exhibited in that account.

998. Mr. *Herries.*] Then it appears in the account of the Master of the Mint?—Certainly; it does not appear as a distinct item, it is involved in the mass.

999. Mr. *Hume.*] Are the Board aware, by your report, of that surplusage for the public benefit?—The weigher and teller is bound to declare the actual weight of the ingot, and therefore there is no necessity for a record of the surplusage; if the Bank weigh with an imperfect balance, and sell by that scale—if their beam is so imperfect as to charge you one ounce less than the actual weight of the ingot, that is their affair, they are satisfied; they buy and sell by their own scale, but our scales being so much finer we gain that.

1000. If the Bank were to send in an account of 90 lbs. 10 oz., and there were only 89 lbs., would you take the Bank's account, or call upon them to correct it?—No, we should not take short weight.

1001. Are the Committee to understand that you take the advantage of surplusage, but refuse to make up the short weight?—Certainly, that is the case. I do not mean to say that we should take an extreme advantage, but it is the difference in the practice.

1002. To whatever amount it is, that has been the practice?—Certainly.

1003. You have stated in your written report that by the direction of the Board the importer is to have the full value as to fineness; is there any order of the Board directing them to have the full value as to the quantity?—None whatever; the case has never arisen. We are speaking of silver now, and since the King is the importer of silver he gets the full value, and importers of gold bullion get the actual value as well; therefore as gold bullion is weighed by a scale equally fine as the silver beam, the importer gets the full value. The Bank have gained very considerably in gold, I believe, in this way.

1004. But not in silver?—Not in silver; the Bank, in weighing gold, never put in a less weight than 12 grains into the scale; but we weigh to two grains, therefore they frequently must gain.

1005. (To Mr. *Field.*) From what period was this improved balance introduced?—The year 1818.

1006. Then, before that time, was the same rule observed with regard to surplusage, or were you unable to discover any?—No, there was no notice taken of the surplusage, if any, the beams weighing so irregularly.

1007. Then the surplusage you speak of has taken place only since the introduction of your finer beam?—Exactly; 1820 was the first time it was noticed.

1008. *Chairman.*] Have you made any other improvements in machinery connected with your department?—When the money is brought into the pyx-room to be pyxed, the usual way used to be, to count, as the Bank does, so many sovereigns or pieces, instead of which I invented a box by which you can count them in the twentieth part of the time, and with only one assistant, and there used to be five or six counting, when small money was pyxed, but now we count in no time at all; you may say, we can do 100 journeys in the course of 20 minutes, and we could not do it formerly under an hour, or an hour and a half, and then there was frequently inaccuracy by miscounting, and were obliged to count it over again; now there can be nothing of the kind, for the machine separates the pound weight whatever coin it may be; they fall into small holes.

1009. Have you ever received any extra remuneration for those inventions?—None at all; neither for the beam or the counting machine, though I expended a good deal of money in both, and making a full sized model of the beam, and money to workmen to expedite its completion.

1010. Do your official duties require continual attendance at the office?—In ordinary times from ten o'clock to four o'clock in the afternoon, but during the

Mr. *John Field.*

4 May 1837.

pressure of business in the re-coinage it was from six o'clock in the morning till late in the evening, four or five or six or eight o'clock at night; and from the bad construction of the office, being exposed to a draft of air, caused me that lameness which I now experience from chronic rheumatism, which I have suffered from, for 15 years.

1011. Do you receive any additional remuneration for extra attendance?—No, none at all; for a little while we worked all Sunday; I remember the Bank was much pressed for coin.

1012. How long did your extra attendance at the period of the re-coinage last?—Nine months.

1013. Why were you employed to make and repair the assay balances and weights used at the Mint?—The person who used to do them died nearly at the time that I came into the establishment; his name was Coventry; not knowing to whom to apply, they requested me to undertake them, which duty has remained with me ever since, and is one requiring much skill and care, and consequent anxiety.

1014. Do you perform this duty yourself?—Myself.

1015. Do you do this at the Mint?—Yes.

1016. Have you a workshop or office of any description?—The office that I stamp the money weights in serves for that office.

1017. Have you any other duties besides those you have mentioned?—Yes, to weigh the copper, now coined in the Mint, which was not formerly done; it has been introduced since I have been in the Mint; it was never mentioned to me; the receiving copper in, and weighing it out in money, is an additional duty that was never proposed to me, and a very unpleasant service.

1018. Mr. *Hume.*] When was that introduced?—In 1822.

1019. *Chairman.*] Have you any clerk or assistant under you?—None.

1020. Are you allowed the assistance of any labourer?—One to attend the scales in the office, to raise the scale beams up and down, and to shift the weights.

1021. Are you allowed the assistance of any one in making and repairing the assay balances?—No, not any.

Mr. *John Buckham,* called in; and Examined.

Mr. *John Buckham.*

1022. *Chairman.*] WHAT situation do you hold in the Mint?—That of surveyor of meltings.

1023. How long have you held that situation?—I have only held that situation since the year 1832, but I have been in office in the Mint since the beginning of 1820.

1024. In what capacity were you before you held your present situation?—Second clerk and probationer melter.

1025. What is the amount of the salary attached to the office you now hold?—£. 200 a year; and I conceive myself entitled to the gratuities which Mr. Field mentioned, but which I have not received, from some misunderstanding.

1026. What gratuities do you mean?—For length of service; the salaries in our establishment were put upon the lowest scale by Mr. Wellesley Pole, with the understanding that after 10 years' service there should be a gradual increase in the pay allowed to the officers. That appears in the indenture of the Mint, which was drawn up in Mr. Wellesley Pole's time, now Lord Maryborough.

1027. Do you mean, that the plan suggested by Mr. Wellesley Pole when he was Master of the Mint, for the gradual increase of the salaries of persons connected with the Mint, was never sanctioned by the Treasury?—It was sanctioned by the Treasury, and it was carried into effect in two or three instances; but by some misunderstanding, and the interference of the Treasury, it was allowed to lapse; I cannot well explain it: the Treasury interfered, and some letters were written on the subject, from misapprehension of which letters the gratuities were withheld.

1028. Sir *T. Fremantle.*] Did you ever make a distinct application that your salary should be increased in conformity with the indenture?—Never.

1029. Mr. *Wall.*] Do you know in what year that correspondence was with the Treasury?—No, I do not; but some superior officer can state that.

1030. *Chairman.*] Have you a house?—I have apartments in which I reside; they are very convenient for my business, but not in other respects.

1031. Are there any fees or emoluments of any description attached to your office

office besides your salary?—In private coinages, such as we had for Portugal lately, there are some small fees received by all the officers, but not to any great amount.

1032. What may they amount to in the course of the year?—In the instance of that large coinage they amounted to about 18*l.* but I have not had above 25*l.* altogether from those fees since I have been in office, such coinages being exceedingly small.

1033. What are the duties of the situation which you hold?—My office is a check upon the melting department; indeed I may say that I am the principal officer of that department. I can read the duties either as they are laid down in the indenture or as I practise them, but the indenture is little more than the basis of my duties.

1034. Will you give your duties as you practise them?—The first part of my duty is, to possess a key of the melting-house strongholds, and to hold the custody of the bullion of all kinds, both gold and silver, jointly with the melter; and I am not to permit any to be out of my sight, at any time, until it is delivered in the shape of bars, by the authority of the King's assay-master, transmitted through the Mint-office; this is called the assay-master's report; it states whether or not the bullion is of a proper fineness to pass into work. To give effect to this is an effective part of my duty.

1035. Do you give security?—None at all. When I have received due notice of melting, or business of any kind, I am to be in attendance; of course on attending I must obtain a knowledge of what is to be melted, whether ingots or scissel, or whatever it may be, and find from the pot-book, which must be present, the manner in which the bullion is to be distributed in each pot, and then release such quantities from the stronghold as may be necessary for the forwarding of the work, taking care that the bullion is disposed of as directed by the pot-book; and the operation of the melting being completed, to see that the bullion is returned to the stronghold, and locked up, to wait the report of the King's assay-master. During the time of melting I must preserve the separate identity of the pots; I must survey the melting of all gold and silver, being present during the whole process; after having seen the ingots distributed to their respective pots, I must take care that the proper alloy, and that only, to be weighed by myself, is added to those pots. In case of melting scissel, I must see that the proper weight of scissel is distributed to each pot as specified, and must see that the melters' ends and returns of all kinds, added to the pots of scissel, are good and clean; and that they are fit to go in. I may perhaps be allowed to explain how I manage that, because the melters' ends cannot be really clean, they being the sweepings of the house, and the scrapings of the pots; I therefore take care that at the end of every day's melting the ends, and everything belonging to that day's work, is deposited in the stronghold along with the bullion, and that such only is added to the scissel; at the same time I reserve to myself the right, if I think that the ends are of improper quality, to reject them. I have to take the assay from such bars in each pot as may be agreed upon between the King's assay-master and myself; I then fold them properly up, and docquet them with an account of what has gone into the pot, stating the weight of scissel, melters' ends, ingots or alloy, or whatever it may be; I write this upon a slip of paper, and deliver it to the King's assay-master. It is then my practice to mark off in the pot-book, against each respective batch of pots, how it has been disposed of, and the same with regard to the scissel. It is likewise my duty as representative in the melting-house, of the three principal officers of the Mint, to see that the orders of the Board and the other regulations are carried into effect, as far as I can. It is my duty to keep a record of every transaction that has taken place in the melting-house, and to prevent the scissel or other bullion from being applied to any other purpose than that directed. I may mention that if the office wish any old coin melted down, it is my duty to see it done; and, in short, to see that everything is done as the Board directs.

1036. You have throughout a check upon the melting department on the part of the Mint?—Yes; in my own right I keep such check as the surveyor of meltings; and likewise in the absence of the deputy-master, and the comptroller and the assay-master; I represent them in the melting department.

1037. Mr. *Hume.*] Are the duties of your office specified in any connected statement by minute of the Board, or otherwise?—My duties have been correctly extracted

Mr. J. Buckham.

4 May 1837.

extracted from the indenture by order of the Board; this is done in the case of every officer; and a copy of each man's duty is handed to him.

1038. You have stated that it is your duty to distribute the metal into the different pots, will you explain that operation?—The ingots are first arranged in pots in the Mint-office.

1039. Having the master's report?—Yes, upon the assay-master's report; they are potted, that is, classed in the pot-book by the second clerk and checked by the check officers; they are sent down in batches of 15 or 16 pots, each pot consisting of five or six ingots, and it is my duty to have them called over, and their numbers compared with the number in the pot-book, and to examine any marks that may be upon them, and see that they are charged by the melter's man into the right furnace; which furnaces we call No. 1, 2, 3 or 4, as it may be, making its number correspond with the number by which the pot is known.

1040. Is there any difference in the value of the gold as reported by the master, and that which you enter in the pot-book?—I do not enter it in the pot-book myself; of that transaction I can have no official knowledge.

1041. How is the difference between the master-assayer's report and the actual value of the ingot ascertained?—That is done previously to its coming into my possession; I know the practice perfectly well, but as surveyor of meltings I have nothing to do with it.

1042. Have you then no record of the difference that actually exists in the value of the bullion between the master-assayer's report and that at which it is valued in the pot?—None, whatever.

1043. From whom can that be obtained?—I should think from the deputy master of the Mint; he would be the proper person, as it is a matter affecting the general government of the Mint.

1044. It has been stated to the Committee that the report of the master-assayer of 100 ingots of gold, is less than the actual value at which it is entered when potted; where is that record, or do you know anything of that difference?—I know nothing of it officially.

1045. You do not know that there is any such difference?—No, I cannot say that there is; it rests entirely between the assay-masters if there is a variation; I have nothing to do with it till it is actually potted, and the pot-book is presented to me along with the ingots; and then it is my business to see that the instructions of the pot-book are complied with, and that the melter performs his functions according to the constitution and regulation of the Mint.

1046. You state, that it is your duty to weigh the alloy; in putting the alloy into the scissel-pots you thereby increase the weight; is there any advantage or increased value arising from that?—As much copper as I put into the gold or silver there is so much gold or silver gained; if I put five ounces of copper into the gold or silver, five ounces of gold or silver are gained by increase of weight.

1047. You keep that account?—I do.

1048. Can you give the amount of alloy added in each year since you have been in office, and the increased value thereby?—Yes, since I have been in office certainly, and before it; I have made out a return of that alloy since 1816, as far as I could; there may be a few deficiencies in my books, but the return is essentially correct.

1049. Do you know to whose profit that surplus goes?—It has hitherto gone to the profit of the melter; but the question has been mooted lately whether that is right or not.

1050. Then are the Committee to understand that at present it remains undecided?—I have that impression myself; though the melter, I believe, is receiving the benefit of it just now; but he can answer for himself. I have made periodical returns to the Mint-office that such alloy has been added, and they may of course do what they please in it.

1051. Will you state what is meant by melters' ends being clean; will you explain the technical phrase?—There is nothing at all meant by it in a literal sense, because they are not in reality clean.

1052. You say that it is your duty to see that the melters' ends are clean?—The meaning of it is in effect this, that the melters' ends should not be used as a vehicle for debasing the standard by surreptitiously conveying inferior metal into the bullion.

1053. Mr. *Herries.*] Will you state what you mean by melters' ends?—The term is applied to the scrapings of the pots which have been used in melting, the chippings

chippings of the bars, and to any piece of defective metal; in short, anything not fit to pass into work is termed melters' ends.

1054. Mr. *Hume.*] How do you value those in putting them into the pots?—I allow the melter to put in as much as he pleases; we generally limit it to a few pounds to each pot, but I do not raise questions upon the quantity.

1055. How do you mean, as much as he pleases; have you not stated that it is your business to ascertain the value of the pot?—No, I have nothing to do with the value; my only care is that they shall not put copper into the pots, or lower the quality of the bullion.

1056. Is it not your business to ascertain the quantity of each metal put in, in order to ascertain the standard?—Yes, but the melter produces perhaps 20 pounds weight of ends, and he says, I shall distribute these into so many scissel-pots, into which nothing but scissel has gone; for he is not allowed, if the scissel-pot has been alloyed, to put a particle of ends into it, nor yet into pots of ingots, although the ends are presumed to be standard.

1057. You state that you put in sweepings; how do you ascertain the value of that?—Those sweepings and everything else are included in the melters' ends; of course, some little pains are taken to cleanse them from dirt, I may examine them as much as I please; and if I believe that there is anything wrong, I may refuse to admit them.

1058. Then, are the Committee to understand that you take the value stated by the melter?—The weight, not the value; I may see them weighed if I like; I am present when the ends are taken from the stronghold; they cannot be taken out without my being present, and for the fact of their being what they profess to be, I must depend upon my own vigilance.

1059. Have you nothing to do with regard to the fineness?—Nothing as to fineness, because I go only by the pot-book, where the assay is not expressly stated, but the calculation of the standard appears in the pot-book.

1060. You have stated that it is your duty to ascertain the value, with a view to know the quantity of alloy to be added; how can you know the quantity of alloy to be added, unless you know the value of the gold?—I see it entered in the pot-book, the quantity of alloy to be added to each pot is there entered or certified by the check-officers; they are the parties to ascertain the correctness of that calculation.

1061. Then you take the certificate of these check-officers as your warrant for mixing it?—Yes; whatever is in the pot-book I am warranted in acting upon, and nothing else.

1062. Then your duty is merely ministerial, as far as the pot-book goes?—Yes.

1063. You have stated that you have a duty also, as regards sweepings, ends and other refuse to be added; on what authority is that done?—In the indenture I am authorized to allow that; I am required by the indenture to see that the ends are clean, and therefore I conclude that the indenture authorizes the practice of mixing them with the scissel; my care is to see that there is not copper or any base metal introduced; and if such appeared the case, to forbid their being used for that purpose.

1064. Can you discover a piece of gold in which there may be 11 parts alloy instead of nine, or any certain proportion without trial?—Certainly not.

1065. How can you ascertain it?—Because I am present during the whole of the melting, and the house is cleaned at the end of the day, when all the ends are collected together under my inspection, and locked up by myself; I do not see how any person can get at them to add other matter during my absence. If the melter were to produce a quantity of ends, or silver or gold of any kind from elsewhere than from the stronghold under my key, I certainly would not permit them to be added; even if I saw nothing objectionable in their appearance I would not be justified in allowing it.

1066. Are the Committee to understand that all sweepings in the Mint are brought and re-melted?—No, only those collected in the melting-house; and none but what I see obtained there.

1067. Then your observation is limited to the melting-house?—Yes; permit me to add, that if an ingot of gold was produced even with the King's assay-master's or any other assayer's report that it was standard, I would not permit it to be added to the scissel.

1068. From the experience you have had, can you offer any suggestion to the Committee by which the department you belong to, or any other, can be facilitated?

Mr. *J. Buckham.*

4 May 1837.

litated?—I am hardly prepared with any suggestions of the kind, but a great deal may be done; I may just observe, that the respective positions of the melter and myself in the Mint, are such as to give him rather more weight than myself; and if he is not inclined to obey an order of the Board, I find a great deal of difficulty in enforcing it; I wish to make no personal observation on any individual, but the system is exceedingly faulty in that respect, and I experience a great deal of trouble in doing my duty in a way satisfactory to myself, or sufficiently strict to attain that security for the public which it is the object of my office to ensure.

1069. In what way would that inconvenience, which you have experienced, be prevented?—If the present system of the Mint continues, it can only be done by giving some moral weight to the surveyor, which might counterbalance that of the melter; if there were more surveyors than myself and Mr. Busson, in effect we should countenance one another, and be able to discharge our duties firmly and manfully, which we cannot do very well now.

1070. Why do you mention Mr. Busson?—Because he alone holds an office similar to my own.

1071. Does he act in any way along with you?—Not at all, his duties lie in another department; but if there were a body of men similar to ourselves we should enforce the orders of the Board, and be the medium through which the Board should transmit its orders to the operative departments; I consider myself as the organ of the Board, and the person through whom the orders of the Board should be always transmitted; or if I had a seat at the Board, that would remedy the evil.

1072. *Chairman.*] What is the nature of the difficulties which you have alluded to as existing in the present system?—The melters position is such, that it gives him very great weight; and he may choose to be self-willed; he may kick at orders of the Board, or think that the restrictions imposed are very burdensome, and refuse to comply with them, which leads to tedious altercations between him and me.

1073. Can you give the Committee an instance of the sort of question that can arise between you and the melter, in which you may find it difficult to perform your duties efficiently?—I am not prepared with any instance, but such an instance might easily be given. Suppose, to take as an example that which has not however occurred, I object to a parcel of melters' ends that he wishes to introduce, he may possibly kick at it, and insist upon having his way instead of mine; I should find some difficulty in enforcing what I know to be right, and perhaps think that there was no inclination on the part of the Board to interfere with effect between him and me, there being no specific penalty appointed to be inflicted upon him if he is irregular.

1074. Mr. *Herries.*] What would be your mode of proceeding if he did object to do what you conceive to be his duty?—I must act upon circumstances.

1075. What is the course which you ought to pursue in the execution of your duty?—I would remonstrate with him.

1076. If that remonstrance was ineffectual, what then?—If I happened to have anything under lock and key, and he wanted to dispose of that; contrary to regulation, I then could enforce my authority, but not otherwise.

1077. If you found a difficulty beyond that of your mere power of lock and key, what should you do?—My obvious course would be to apply to the Board; at least that would be my proper course.

1078. Would your first course be to apply to the deputy-master?—It would be the most easy way.

1079. Would not that be a sufficient authority to compel the melter to perform his duty?—My own impression is that it would not.

1080. But it would be the natural course, would it not?—It would be the proper course.

1081. Has it come to that, that you have made complaint?—No, I have never made any official complaint to the Board.

1082. Mr. *Hume.*] Then, if you have never made any representation to the Board of inconvenience, are the Committee to understand that those inconveniences have not been very great?—They have been very great.

1083. And yet you have not thought proper to appeal to the Board under which you act?—I have not, but that proceeds from a personal impression of my own.

1084. Mr. *Herries.*] Do you think that the public has been subject to some loss or inconvenience from those practices?—No, it has not; if it had become so serious as that, I would have appealed.

1085. Then

1085. Then it has not arrived to such a point, as the public has sustained loss or inconvenience?—No.

1086. *Chairman.*] If the public has sustained no inconvenience, what has been the nature of the inconvenience which has been sustained by anybody?—By myself, and the unpleasant situation in which I have been placed, in finding it my duty to enforce regulations which I had a great deal of difficulty in doing; add to this the danger of the very evils arising, which the restrictions in question are meant to guard against.

1087. Sir *T. Fremantle.*] Have you been sucessful in enforcing them?—Sometimes, and sometimes not; if I might suggest anything to cure this, it would be a scale of fines to be inflicted upon reporting to the Board that any irregularity had taken place; if a fine was inflcted, I think it would have the effect of stopping this.

1088. Can you give the Committee any idea of what are the kind of irregularities to which your observations apply?—Supposing that it was the wish of the melter to add melters' ends to a scissel-pot which had been alloyed, I should have a great deal of difficulty in preventing him from doing it, if he was determined upon it; because if he does it I know of no remedy that I can have against him.

1089. Mr. *Herries.*] Would it not be a distinct breach of his duty if he were to do so?—I think so, most decidedly.

1090. One that would be likely to lead to danger and inconvenience to the public?—So I say.

1091. Then in such a case would it not be your duty immediately to report to the higher authority this breach of duty on the part of the officer over whom you have check and control?—Yes, it would.

1092. Would that be the remedy?—I do not know; but I think that the melter is likely to have more weight with the Board than myself.

1093. What reason have you to believe that?—That is my feeling.

1094. Mr. *Wall.*] Have you ever reported any circumstance of which you have thought you had reason to complain to the Board, to which the Board has not paid immediate attention?—No, I never reported any complaint officially to the Board; yet I may, in conversation, have mentioned such matters of complaints.

1095. Sir *T. Fremantle.*] What sort of irregularity do you consider the fine would be applicable to?—It would be for the Board to arrange the scale and direct its application.

1096. But will you inform the Committee what is the nature of the irregularities which you think would be corrected by a fine?—Suppose, for instance, that a portion of gold or silver was left at the bottom of the pot on pouring it, and I thought it right to forbid him to charge another pot of ingots upon the gold remaining in the pot, yet the melter persisted, this would be a breach of duty, or a violation of the orders of the Board, by the melter in doing it, by me in permitting it; the knowledge that a certain loss to himself would ensue, would, I think, deter him from persevering, after being warned.

1097. *Chairman.*] When any difference of opinion exists between the officers of the Mint, has it not been the practice to bring the subject before the attention of the Master?—It has rather been avoided; it is an unpleasant thing to do.

1098. Is it not within your knowledge that recently an instance, in which a question between officers arose, was brought before the Board, and was decided by the Board?—The question, I suppose, refers to the alloying of scissel; that was between two Board officers, who were likely to have nearly equal weight with the Master.

1099. Then your apprehension is, though the Master of the Mint had no difficulty in deciding the question brought before him, when two officers holding nearly the same situation differed, that he would not be able to decide fairly if a question was brought before him on which there was a difference of opinion between two officers, one holding a high situation in the Mint, and the other holding an inferior situation?—My answer did not apply to the Master of the Mint, but rather to the Board, for the Master of the Mint would, I have no doubt, decide fairly and justly; but when men are in the habit of associating together, as in the limited society of the Mint, there is a feeling of reluctance to interfere which might operate on the board officers.

1100. If you see anything going on in your department, and you find an unwillingness to set it right on the part of the officers of the Mint, is it not your duty to

Mr. *J. Buckham.*
4 May 1837.

to apply to the Master and obtain his decision?—If it was a matter of great importance I should do so; but those matters are rather a series of faults and annoyances than any particular instance of great magnitude.

Mr. *William Busson*, called in; and Examined.

Mr. *W. Busson.*
4 May 1837.

1101. *Chairman.*] WHAT situation do you hold in the Mint?—Surveyor of money presses and coins.

1102. What is the salary attached to that situation?—£. 200 a year.

1103. Have you apartments at the Mint in which you reside?—Yes.

1104. Are there any fees or other emoluments attached to your situation?—There is a little which we receive sometimes on private coinages, which is distributed among us.

1105. Were you in any situation in the Royal Mint before you were surveyor of money presses?—Yes, of teller; when I first commenced a person of the name of Codrington died, at the time the coinage was issued out, and I was appointed in his situation.

1106. How long have you been in the Mint in both capacities?—From the 28th of October 1816.

1107. What are the duties of the office which you hold?—To lock up the money presses, and see that the dies are all clean and perfect in work; to be present at the striking of the monies, and not to suffer the presses to be used for striking any pieces or coins but such as the Master shall direct; to have the custody of dies received from the engraver or clerk of the irons; to give out the same for coining, and return them to the chief engraver or the clerk of the irons; to see the coining of all monies; to inspect the monies that they be well made, and free from breakage or faulty or dirty pieces, and to perform all such other works or services in the said offices as the said Master shall direct or appoint.

1108. Does the paper, from which you have read, contain your instructions?—Yes, chiefly; that is, to see that the dies are all correct; and I have to see that the coin is correct, and that the die is used for nothing else.

1109. Mr. *Hume.*] Have you any written instructions from the Board as to the extent of your duties?—Not with me.

1110. Have you any at all in the office?—Yes, in the book of the indentures; this is a copy of it.

1111. Mr. *Herries.*] That which you hold in your hand is a copy of the instructions which are entered in a book, and by which you are governed in the execution of your duty?—Yes; after the coining is done, I see that the presses are locked up.

1112. *Chairman.*] Have you any duties to perform when the coinage is not actually going on?—No.

1113. Is it part of your duty while the coinage is going on, to be constantly present, and to watch the pieces as they are struck, to take care that there is no fault in them?—Yes.

1114. Mr. *Herries.*] Your duty extends only to the manner in which the coin is executed, not to the quantities at all produced?—No, not to the quantities; that depends upon the gentleman that gives it out; only to be there in attendance, and to see that it is done in as perfect and good a state as I am able to see it done in.

1115. In what way do you account for the dies that are given out for coinage?—I receive so many of different sorts, according to the quantities of money that are in coining.

1116. What entries do you make of the dies so received?—The clerk of the irons keeps his account, and I fetch them from him.

1117. Do you keep any account yourself?—Only in my own head from day to day.

1118. Then at the close of the day you show the clerk of the irons that you can account for all the dies delivered out by him to you?—No, I do not account to him every day.

1119. Then from time to time you account?—Yes, because sometimes I have to change three or four times in the course of the day; they break, therefore there are various accounts in the course of one day.

1120. But in all cases you account to the clerk of the irons for all the dies that are delivered out?—Yes.

1121. Suppose

1121. Suppose there is a difference between him and you as to the number returned and the number delivered out?—There never has been.

1122. In that case how would you defend yourself if he were to tell you that you had returned only six instead of eight?—I must give him an account when I return them, or he would not be satisfied.

1123. You do not keep the account yourself, except in your head?—No, or with a piece of chalk.

1124. Mr. *Hume.*] Are the Committee to understand that it is your duty to bring from the clerk of the irons the number of dies that are wanted for the number of presses used in the course of the day?—Yes, more than are wanted, in case of breakage.

1125. And it is your duty to attend, and in case of flaw or crack, to replace them?—Yes.

1126. You are always present?—Yes.

1127. When your presses cease to work, do you lock up the presses and take away the dies?—I lock up the presses and take the keys away; the dies are not moved, except there is a stoppage of the work.

1128. Then the Committee are to understand that they are never at work but when you are present, and have the charge of them?—Yes.

1129. Mr. *Herries.*] The number of dies used depends upon the quality of the dies, sometimes more and sometimes less are required?—Yes.

1130. Some stand much longer than others?—Yes.

1131. But it is found that every die given out is accounted for to the clerk of the irons?—Yes, and even the pyxes are accounted for, so that he sees that you return the same dies.

1132. To Mr. *Brande.*] In what way are the dies delivered to the presses entered, and into whose custody are they placed?—When a certain money is to be coined, the surveyor of the presses comes to us for dies, for the purpose; we inquire what number he wishes to have; perhaps he says six pairs; we deliver him six pairs and make an entry in our book that six pairs are gone into the press-room. At the end of the day he brings us perhaps three pairs back again that are broken or otherwise injured, we then give him three pairs of new dies to make up the six, so that he is continually responsible to us for the number of dies that he originally received, and in that way he goes on from time to time receiving fresh dies to make up for those that are broken or injured, and at the end of the coinage he brings us back the six pairs, which are entered in our book as returned, and accordingly he is acquitted of all further charge respecting them.

1133. Mr. *Herries.*] Has it ever happened that there has been a difference between you and the surveyor of the presses with respect to the number that have been given out?—Never.

1134. Mr. *Hume.*] By that check which you keep, you consider it impossible that any die can be removed from the Mint?—We should immediately be aware of it if a die was missing.

1135. Mr. *Herries.*] It is only at the close of the coinage that the whole number is ultimately accounted for by the surveyor of the presses; he brings back to you in the interim only those that are destroyed, and which are to be replaced; what means have you, during the coinage, of being certain that, of the quantity that remains still in his hands, the whole are in his custody, and not abstracted for any other purpose?—He brings us the whole number back ultimately, when the coinage is complete; but in the interim he is obliged to have a certain number of dies in hand to go on with, and those dies are continually circulating; the bad ones come back to us, and we are delivering good ones in their place continually.

1136. Then you have no positive security that the whole number of dies in his hands is in the employment of the Mint, and that one or two may not be abstracted?—While the dies are out of the press-room, they are under Mr. Busson's care.

1137. Mr. *Hume.*] Is there anything to prevent Mr. Busson, he having a certain number of dies to provide for breakage, sending any out of the Mint?—Certainly not.

1138. Mr. *Herries.*] Would there be any difficulty in your ascertaining every night the number of dies that he has in his custody?—None; we do it virtually.

1139. How do you do it virtually?—I am in the habit of continually visiting the press-room during the coinage, and I have a key of the cupboard in which the

Mr. *W. Busson.*

4 May 1837.

dies are, and I am continually examining them; I know the number that are in hand, and I see what application is made for them; I come to inquire whether they are standing well or breaking, repeatedly; what number are wanted and what number are to be used, and so forth.

1140. So that, in point of fact, you exercise a daily superintendence over the dies, which are in the hands of the surveyor, of many presses?—Generally speaking, I do.

1141. *Chairman.*] Are the breakages very frequent?—In some cases they are, with particular monies especially; but I should say that latterly they have been much less frequent than formerly.

1142. What description of monies is it that causes the greater number of breakages, the larger or the smaller description?—Generally speaking, those monies in which the presses are very deep, as in half-sovereigns, or where the blow is required to be very heavy to have in high relief the impression, as in the case of half-crowns, we require a tremendous blow, and it is a great stress upon the dies.

1143. Sir *T. Fremantle.*] To what circumstance do you attribute the less frequency of the breakages?—To the improvements in the manufacture of steel.

1144. Mr. *Herries.*] Owing to a suggestion of your own?—I think so.

1145. You examined the steel?—I took a great deal of pains some years ago to discover the best kind of steel for our purpose, and I think now I have found it out.

1146. Mr. *Hume.*] What steel have you found most useful?—Steel manufactured by Huntsman, of Sheffield; British cast steel.

1147. Mr. *Herries.*] Was their manufacture improved in consequence of suggestions from yourself?—When I came to the Mint we were in the habit of having our dies ready forged, and sent to us forged from Birmingham; we very seldom could depend upon them, and therefore I obtained bars of steel from a number of manufactories, and examined them chemically, in order to ascertain whether there was any chemical difference between them, and I found that there was, and that a particular kind of steel stood much better than any other. I then endeavoured to ascertain in what manufactory I could obtain that kind of steel most certainly, and I wrote to Huntsman upon the subject, and he undertook to furnish us with it.

1148. And the result has answered your expectations, has it?—It has.

1149. Mr. *Hume.*] In what year were those experiments made?—Those experiments were made during the years 1830, 1831 and 1832, I think.

1150. Have you ever had any communication with the Mint in France, or any other country, in order to ascertain how far their expenditure of dies exceeded yours or not?—Yes, I did; but their mode of coinage is so different from ours that it is impossible to draw any comparison respecting their consumption of dies as compared with the consumption of our dies.

1151. *Chairman.*] What are the differences to which you allude?—They do not coin by machinery, or at least not in the way in which we coin by steam-engine.

1152. Mr. *Hume.*] In what way do they coin?—They coin by hand, by men pulling the press.

1153. Mr. *Herries.*] The blow then in that case is less forcible?—It is less forcible and more manageable; I think more under the control of the coiner.

1154. Do you think in that way the coin can be executed better?—No, I think not.

1155. Mr. *Hume.*] What advantage have you from your plan?—From our mode of coining we are enabled to coin more rapidly.

1156. Mr. *Herries.*] My question went not to the quickness of execution, but as to making the coin as perfect as possible; do you think, according to the French mode, by which they have more control, that they can coin better?—I think the French mode of coining is very much like the mode adopted here in casting medals, or in coining proof-pieces, which we coin by hand, and we can then coax the press according to circumstances.

1157. Is not that a superior mode?—Much superior.

1158. That has the effect of repeating the blow, has it not?—Yes, with regard to medals.

1159. *Chairman.*] Has not machinery similar to that in use in our Mint been lately introduced into the mints of other countries?—It has been long employed in the Russian mint at Petersburg.

1160. Is it in use in the Prussian mint, or is it about to be so used?—I am not aware that it is.

Mr. *W. Busson.*

4 May 1837.

1161. Mr. *Hume.*] You sent some coinage to India; are you aware of any coinage in India?—I think there has been.

1162. *Chairman.*] Is it not the case, that from the scale upon which the machinery of the English Mint is constructed, it is a very expensive process to put it into operation?—Very.

1163. It is not worth while to do so for anything but a considerable coinage?—No; I am not aware of the exact expense of putting the machinery into motion, nor of the quantity of money that would, to use a technical phrase, pay for coining; but the moneyers can inform the Committee of that.

1164. Mr. *Wall.*] If the steam-engine which is now at the Mint had been placed in a more central position, would not one have done instead of three?—No, I think not; we require, in fact, the whole power of our large engine to move the rolling mills when the Mint is in full work, that is, when three or four of the rollers are at work at once.

Mr. *William Hampson Morrison,* called in; and Examined.

Mr.
W. H. Morrison.

1165. *Chairman.*] WHAT situation do you hold in the Mint?—Clerk assistant to the deputy-master.

1166. How long have you been in the Mint?—I was first appointed in the year 1816 as a clerk in the Mint, at a salary of two guineas per week; and that went on till the year 1824, when the salary was raised to 200*l.* per annum under Treasury authority.

1167. What is the salary that you now enjoy in the situation which you hold?—£.200 a year.

1168. By whom are you appointed?—At the nomination of the Master, sanctioned by the Treasury.

1169. You have signed a petition which was addressed by the clerks of the Mint to the present Master, and which has been referred by him to this Committee?—I have.

1170. In that petition you make reference to a scale of increase recommended by Lord Maryborough on the revision of the establishment in 1815; is that the scale laid down in the Mint indenture?—It is.

1171. Has it ever been acted upon?—It has, in the case of three officers of the Mint, the deputy-master, the late King's assay-master, and the master's assay-master.

1172. Do you know what were the reasons why this recommendation was not acted upon with respect to the other officers and servants of the Mint?—It has ceased to be enjoyed by the other officers and servants of the Mint in consequence of an oversight or misapprehension of the meaning of certain communications from the Treasury upon this subject; I will state the particulars to the Committee: by an Order of Treasury, dated the 11th of April 1821, the gratuities for length of service according to the then existing regulations were to be suspended "until their Lordships should have considered the several scales of increase, and shall have come to some determination thereon." The Committee will see that this suspension was contingent upon something about to be done; what that was will appear from the Treasury letter, dated the 13th of August 1821, in which their Lordships transmit an extract from their minute of the 10th of August, respecting the establishment of a general superannuation fund. The minute thus concludes: "In order to introduce this new system as early as may be practicable, yet with as little inconvenience as possible to the individuals whose interests may be affected, they have directed that every person whose situation is not to be abolished, shall retain his present emoluments, (subject to such payment to the superannuation fund as may be due therefrom), until by promotion or allowance for length of service he shall be entitled, under the new regulations, to a salary at least equal to that which he now possesses." In reply to this communication, Lord Maryborough, then Master of the Mint, after stating the savings which had been effected in the establishment by his revision of it in 1815, adds, "I am of opinion, therefore, that the arrangement of the Mint establishment, as settled by the last indenture, provides for the efficient execution of the duties in the department at as small an expense as the nature and extent of the service will permit, and that it is not expedient to make any further reduction of the persons employed, or in the salaries and allowances paid to the several officers; but I submit that the provisions recommended by your Lordships for establishing a superannuation fund, should be carried into

Mr. *W. H. Morrison.*

4 May 1837.

execution in the department of the Mint, upon the principle laid down in your Lordships' minute." The decision of the Treasury, dated the 21st of January 1822, on this report was, "That the establishment of your office having been so recently revised and settled as in 1815, and the establishment having been then formed upon the most economical principles, and arrangements having been then made for conducting the business of the department upon advantageous terms, no alteration appears to be now necessary." It must therefore be evident to the Committee that had the gratuities in question been continued to be charged in the Master's account, as heretofore, when they became due to the several officers, they would not have been considered as suspended or abolished by the auditors of the public accounts, and they would now have been enjoyed by the officers of the Mint under the provisions of the indenture. It should be observed, that in conformity with the directions of the foregoing Treasury Minute the salaries of all persons in the Mint were taxed for the superannuation fund, from the 5th of April 1822, and the proceeds paid to the Commissioners for the Reduction of the National Debt; but those contributions were subsequently ordered to be returned to the several individuals by Treasury letter, dated the 14th of July 1824, under the provisions of the Act of 5 Geo. 4. A representation of the foregoing circumstances was made to the Treasury in 1834, by Mr. Abercromby, then Master of the Mint. Their Lordships, however, have not thought proper to revive the scale of increase; but as the Committee is now inquiring into the establishment of the Mint, the question is humbly submitted for its consideration.

1173. Confining your observations to the case of the clerks of the Mint only, without entering into the subject of the salaries given to the other officers, do the clerks of the Mint rise regularly by seniority or not?—There is an established system of succession as regards the clerks of the Mint from the lower to the higher offices.

1174. Do you mean, that if a vacancy occurs in one of the clerkships of the Mint, the new appointment always takes place at the bottom of the list, and the others rise in succession?—Yes, the clerk immediately in succession would look to succeed to the higher office.

1175. Is there any regulation to that effect, or is it only that it has been the practice of the Master of the Mint to make appointments upon that principle?—Only by the general practice of the Mint.

1176. What is the highest salary which, for any length of service, a clerk of the Mint can obtain?—£. 200. a year.

1177. What is the salary at which he enters at the bottom of the list?—Two guineas per week.

1178. The utmost that he can obtain for any length of service is 200 *l.* a-year?—Yes, that being the salary of the clerk to the deputy-master, which is the highest.

1179. As long as the clerk remains in his situation, and does not rise in the list, no addition is made to his salary whatever, for any length of service?—None whatever.

1180. Do you know whether this is the principle upon which the clerks in the other public offices are treated?—I believe not; in most other public departments I believe the principle of an increase of salary for length of service is adopted.

1181–2. Mr. *Hume.*] Are the clerks ever promoted to other offices in the Mint?—Yes, there are instances of that; there has been a recent instance in the first clerk in the office being promoted to be probationer assayer.

1183. What amount of salary does that give him?—That salary is 200*l.* a year.

1184. *Chairman.*] What are your duties as clerk assistant to the deputy-master?—My duties are to assist the deputy-master generally, in the drawing up accounts and papers relating to the department; to make fair copies of the same, and to enter them in the record books of the office; to arrange and register all the letters and papers received at the office, and to classify the same for convenience of reference; and generally to assist the deputy-master in all the secretariat business of the office.

1185. Can you state generally what are the duties of the other clerks of the Mint?—Yes; they assist the deputy-master in the performance of all duties, as well as the other officers of the Mint, the comptroller and King's clerk. I have a list here of the books kept by each clerk, which might give the Committee a general notion of their duties.

1186. There

Mr. *W. H. Morrison.*

4 May 1837

1186. There is a distinction made in the papers that have been transmitted to the Committee between the clerks of the Mint and the extra clerks of the Mint; will you explain to the Committee upon what that difference is founded?—The two extra clerks did not till lately have their appointments sanctioned by the Treasury; since they have been so sanctioned, it is the opinion of the Master of the Mint that they are as permanent as the other clerks, but they are not so considered, I believe, by the Audit-office.

1187. You mean, that the regular establishment of the Mint is without those extra clerks, but in point of fact their services have always been found necessary, and so that, practically, they are considered as part of the establishment?—Yes.

1188. Sir *T. Fremantle.*] Do they become clerks upon the establishment when a vacancy occurs?—Yes.

1189. The new clerk appointed is in the situation of extra clerk?—Yes.

1190. Is he entitled to a superannuation allowance?—By a Minute of Treasury lately they would become entitled to superannuation allowance, because they are considered in the nature of permanent clerks.

1191. When was that Minute of Treasury?—I do not recollect at this moment, but about two or three years ago.

1192. *Chairman.*] The clerks of the Mint have no fees or perquisites of any description, beyond the salaries that you have mentioned?—They have a small allowance on the private coinages with the other officers.

1193. What does that amount to?—It is so small that I hardly know.

1194. Can you state, in your own case, what it may have amounted to in the last 10 years?—I dare say it is not more than 20*l.* or 30*l.*

1195. For the last 10 years?—I do not think the clerks have had it for 10 years, because a new regulation was made at the time the coinage for Portugal was carried on.

1196. Can you inform the Committee what is the greatest sum you have ever received from that source in any one year?—About 18*l.* was received upon the Portuguese coinage by each clerk.

1197. In what year?—1830.

1198. Sir *T. Fremantle.*] Are the duties of the clerks increased when the Mint is in full operation?—Yes.

1199. *Chairman.*] What are the hours of attendance of the clerks?—From ten to four are considered the regular hours.

1200. Mr. *Hume.*] When the clerks remain longer than that, is there any extra allowance?—No.

1201. Do they ever remain longer than four o'clock?—If they have business to do it is always considered that they are to do it; for instance, during the time of the panic, when the Mint was a great many hours at work. There is one feature in the employment of the clerks of the Mint, which is different from that of any other clerks, they have a kind of charge or responsibility; during the past year upwards of half a million of silver monies were told out by them; that is, the monies are made into bags of 100*l.* value; the clerks have charge of the monies from the weighing at the scale till they are told and deposited in the stronghold at the end of the day, when the account is made up and delivered in by the first clerk, with the plus or minus of the tale over or under the computed value.

1202. Who performed that duty before?—It has always been done by the clerks.

1203. This is no new duty?—No; but it has been heavy in the past year, from the great amount of coinage.

Martis, 9 die Maii, 1837.

MEMBERS PRESENT.

Right Hon. Henry Labouchere.	Mr. Goulburn.
Sir Thomas Fremantle.	Mr. Ridley Colborne.
Mr. Herries.	Mr. Warburton.
Mr. Hume.	Mr. T. Baring.
Mr. Wall.	Earl of Lincoln.

THE RIGHT HON. HENRY LABOUCHERE, IN THE CHAIR.

Mr. *G. F. Mathison*, called in; and Examined.

Mr. *G. F. Mathison.*

9 May 1837.

1204. *Chairman.*] WHAT situation do you hold connected with the Royal Mint?—Master's first clerk, melter and refiner.

1205. How long have you held that situation?—Since April 1828.

1206. Were you connected with the Mint in any manner before you were appointed to the office you now fill there?—No.

1207. Had you previously been engaged in any pursuits analogous to the duties which have devolved upon you in the melting department?—I had not.

1208. Is there any salary attached to the office?—None whatever.

1209. You are, however, considered a Mint officer?—In virtue of being Master's first clerk.

1210. Have you any duties as Master's first clerk?—I might, perhaps, be at the service of the Master as a sort of secretary if he required it; in fact I have not any to perform.

1211. In point of fact you have never done any duties of that description?—No; I once mentioned to the present Master that if he had any duties of that kind to discharge, I was at his command.

1212. Whom did you succeed?—I succeeded Mr. Mushet.

1213. How long did he hold that office?—Eleven years, I think.

1214. Have the goodness to describe to the Committee what is the nature of your situation as melter?—I hold a contract with the Master of the Mint to execute the duties of my department at certain fixed rates described in a schedule in the indenture.

1215. Is that contract for a term of years, or of what description?—It is a general contract, not for any definite term of years; an indefinite contract.

1216. Is it determinable on notice?—Determinable on three months' notice, by either of the contracting parties. I should say it never has been terminated so long as the Mint has been a mint.

1217. On a vacancy occurring in the office of melter, do you know whether it has been the practice of the Mint to act at all upon the principle of seeking for competition in the choice of a person to discharge the duties of that office?—Never, to my knowledge; the practice has been to bring up a probationer who should be ready to fill the situation when it became vacant, as far as his practical knowledge enabled him.

1218. In your instance there was not a probationer?—No, I was not.

1219. Is there a probationer now?—Yes, a nephew of Mr. Mushet; Mr. Robert Mushet. When I succeeded, the probationer was Mr. Buckham.

1220. Do you conceive a knowledge of the duties is necessary to enable the melter to discharge his duties?—It depends a great deal upon the manner in which the person takes to the business, and devotes himself to it. I experienced some inconvenience at first, but I had the advantage of the assistance of a person who had already been there. I kept all the same workmen who had been employed before, and I made it a very great point of becoming, as it were, a workman myself. There is not a single duty of the most menial kind in the office I did not learn to discharge myself, because, in order to direct others, a man must be able to do the thing himself.

1221. Did you fill any public situation before you had this contract?—I was officially connected with Mr. Herries when he was Chancellor of the Exchequer, and I had previously held a situation in the Colonial Audit-office.

1222. Who was Master of the Mint in 1828?—Mr. Herries.

1223. Have

1223. Have the terms of the melter's contract been altered for a great number of years?—Yes, they were altered in Lord Maryborough's time; there was a very great reduction made.

1224. What are the terms at present?—I have not a schedule by me; but speaking from memory, the terms for melting gold are 10 *d.* per lb. for sovereigns, and with some little difference for half-sovereigns; 2 ½ *d.* the melting half-crowns.

1225. You have stated to the Committee that the terms of the melter's contract were reduced during Lord Maryborough's mastership; have the goodness to describe in what those reductions consisted?—The old price was, for melting gold 1 *s.* 3 *d.* a lb., and for melting silver 3 ½ *d.*; the present price is, for melting gold 10 *d.*, and for half-crowns 2 ½ *d.*, and other pieces in proportion.

1226. Mr. *Herries.*] Did the first sum you mentioned for silver apply to half-crowns specially?—To crowns and half-crowns; shillings are 4 ½ *d.* Lord Maryborough, in his letter, takes credit to the Government of that day for having made this great reduction; and it was, as is stated in my report, that the Government were very much enabled to do this by the improvements made by Mr. Morrison, who introduced iron pots, which have diminished the waste of melting to a very considerable extent; the reduction may be judged of pretty strongly by the fact of its being one-half the trade price of the present day.

1227. Mr. *Hume.*] What is the date of your own contract?—The year 1828.

1228. *Chairman.*] No alteration has been made in the terms of the melter's contract since 1815?—No.

1229. Do you give security?—I enter into a bond in 5,000 *l.*

1230. Have you any house at the Mint?—I have, similar to those of the other gentlemen.

1231. Have you any acquaintance with the system upon which foreign mints are conducted?—I have a general acquaintance.

1232. Do you know whether there is any other mint except that of this country, in which the melting department is separated from the moneying department, in any contract which is entered into?—It is in the American mint.

1233. Is not both moneying and melting done by the establishment in America, and not by contract?—It is done by the establishment; there are two persons who perform the duties very much in the same manner, except that they are paid salaries and receive an allowance for waste, which amounts to very much the same thing, at least it leaves the thing indefinite.

1234. Mr. *Herries.*] You understand that the allowance for waste is not the sole remuneration for those parties?—No, they have a salary, and over and above that they are allowed the waste.

1235. They are paid partly by salary and partly by an allowance?—Yes, which is indefinite as to the rate of profit.

1236. It must depend upon their skill in the execution of their office whether that remuneration be more or less?—That is as I understand it; but I have not corresponded with them exactly. As I understand, with reference to gold, which I will take particularly, I am allowed 10 *d.* a lb. for the whole concern, finding fuel and workmen and everything; the melter in America is allowed so much a year, and fuel and everything of that kind is found by the government, and then there is the allowance for waste, not to exceed 5 *d.* a lb.

1237. *Chairman.*] Do you suppose the allowance for waste of 5 *d.* a lb. is meant as a source of profit to the melter, or is calculated so as only to cover the expence of that waste?—I am not quite sure; I have read all the American documents which have been transmitted upon the subject, and I am not quite satisfied whether he is bound never to charge more waste than this 5 *d.* a lb., or whether he gives the credit to the government if his waste is less; I am not prepared to state exactly what that is; the impression upon my mind is, that the 5 *d.* a lb. is given him to make the best he can of it.

1238. Are you acquainted with the French system of conducting the mint?—I am.

1239. In the French system the contracts for melting and fabricating the coin are in the same hands?—They are.

1240. Mr. *Herries.*] They are executed wholly by contract?—Wholly by contract.

1241. The same contractor undertakes to melt and to coin?—Yes.

1242. *Chairman.*] Do you not think that the comparative cheapness with which those

Mr. *G. F. Mathison.*

9 May 1837.

those processes are effected in France, to what is the case in this country, is partly to be attributed to the union of those contracts?—I cannot see enough difference to account for that; the establishment of workmen, for instance, which is a very considerable sum in the expense of the coiners, is a very small comparative part of the melter's expense, and the two establishments of workmen must be kept up very much the same; I cannot conceive any case in our establishment, for instance, in which the union of my men with the moneyer's men would enable me to keep fewer melters, or to use them at other times.

1243. Are there not reasons why it would be more profitable to a contractor to have the melting and the moneying in his own hands than it would be to two contractors, if in separate contracts?—To a certain extent; wherever a person has a large business, he can afford to do it on lower terms.

1244. In the event of two businesses in the hands of two contractors, are there not reasons connected with the process of melting which would make it cheaper the same person should melt and strike the coin?—I do not think there are, in reference to our mode of conducting the business; I think there are, with reference to the French mode of conducting the business.

1245. Mr. *Hume.*] Will you explain what you mean by the two modes, the English and the French, to which you refer?—According to the English mode of conducting the business, the melters and moneyers are rather administrative officers in one sense; whereas, in the French mint, they are in the light of importers; they are the purchasers of the bullion, they are responsible for the issue of the coin at a certain weight and fineness, which is ascertained by a trial of the pyx, according to the deliveries of coin made; all the intermediate processes of coinage are unchecked, they are left to the discretion and to the ability of the contractor; whereas, in our Mint each transaction is checked, each transaction has a delay occasioned by that check; if the pots are not exactly well combined, they are stopped by the King's Assayer, the work is impeded until they are corrected; the bars, after they are melted, have to be kept two or three days, according to the circumstances, until they are assayed; whereas, in the French mint, the contractor combines his own pots in his own manner, he adds as much alloy as he thinks possible, without infringing on the remedy allowed by law; he has an assayer of his own, who takes the assay of the metal in each pot while it is under fusion, and adds, to meet the oxydation of the copper, which is considerable in the French pots, as they use larger ones than ours, which brings the metal therefore up to the standard, according to his own system; then the bars go from his department to the moneyer's department so soon as they are fused, and under those circumstances certainly the union of the two departments is much more easy, and has advantages which the other mode of conducting the business could not possess.

1246. Mr. *Herries.*] The metal being, in the case of the French contractor, his own property from the beginning?—Yes.

1247. Mr. *Hume.*] You state that in the English Mint the melter is an administrative officer; do you mean as a member of the Board?—No, I mean with reference to his mode of melting, as being obliged to have his pots checked and his bars assayed, that he acts under the direction and instruction of others.

1248. Will you explain what you mean by administrative officers in the English Mint?—I mean acting under the direction of the officers of the Board.

1249. In contradistinction to the contractor in France, who provides his own metal, and is his own master during all the operations, till he turns out the coin?—Yes.

1250. *Chairman.*] Without adopting the French system in that respect, would it not obviate some delay and expense, and the necessity of some checks, if the melting and moneying departments were united in one?—I do not see how that would obviate the necessity of any check; the necessity of the check is to preserve the coin, for which the King's assay-master is responsible; I do not see how that could be diminished by the union of the two departments in one.

1251. Is there no delay occasioned by the transfer of the bullion from the melting department to the moneyer's department, as a protection for the moneyers?—None whatever, that I know of, as I now deliver to the moneyers for their own sakes, that they may be sure that the metal is standard, for which they are responsible in coin; there is some occasion for that certainly, but my feeling was, that the importance of the check was for the public, and not for the officers themselves.

Mr. G. F. Mathison. 9 May 1837.

1252. Mr. *Hume.*] You say the check in France is the pyx taken on the coin?—On every delivery of coin the assayers take a certain number of pieces, and assay them.

1253. Is that in something like the same manner as our pyx are taken?—Something like the same manner.

1254. Mr. *Herries.*] Do you mean that it is by the trial of a jury of independent men?—No, I refer to the pyx within the walls of the Mint.

1255. You speak of the examination by the officers appointed by the French government?—Yes.

1256. Are you aware whether the coin ultimately undergoes any other examination before or after it passes into circulation?—I am not aware of any other.

1257. Mr. *Hume.*] Will you state what you mean by a stopped pot, which you observe it is the duty of the officer to put by?—A stopped pot is a mixture of metal caused by a combination of ingots, which combination, when tried by the King's assayer, is found to be inaccurate; the metal is not standard, and requires some alteration before it can be passed into work.

1258. Sir *Thomas Fremantle.*] At what period in the process of the melting is it assayed by the King's assayer?—After melting, before it is put into work.

1259. The stopping is not a stopping in the melting?—No, but only in the delivery of the bars.

1260. Do you ever apply the term stopped pots to scissel pots?—If they should be defective, I have known seven or eight scissel pots which were stopped by the King's assayer.

1261. Mr. *Hume.*] All pots that are not standard, when so found are stopped until a proper addition can be made?—Yes, and very frequently where there is not found any defect in the relative amounts of gold and silver, but when the gold and silver and the alloy are not properly combined together; occasionally, if the gold and alloy are joined together in certain quantities, without a perfect admixture throughout the bar, it is then stopped and re-melted till a better combination can be made.

1262. Are you able to state what length of time the assaying of the coin with you would occupy, more than it would occupy in France?—There is no exact period defined for the taking the assays, a good deal depends upon the manner in which the work is wanted, whether there is a great demand for coin; the King's assay-master may assay pots more rapidly at one time than at other times. I have melted at four and five o'clock in the morning, that the King's assay-master might receive the assays by eleven, and assay them the same afternoon, and then delivered the following morning; it does not always follow that that would be convenient or even possible, if there were many other assays to be made. In France there cannot be the delay of a single hour; there is no necessity even for assaying the bars.

1263. Sir *Thomas Fremantle.*] In France the melter has a private assay of his own before he puts his bars into work?—That is, before he makes up his pots, to get in as much copper as possible.

1264. That does not create any delay?—No.

1265. Mr. *Hume.*] Are the Committee to understand that the whole of the process depending upon the orders of one man, the contractor, there is no delay in the operation, and the process under you depending upon the assayer, it may be delayed by another person, but not under your immediate charge?—Yes, I conceive that to be the case.

1266. Do the furnaces, the machinery, and other apparatus about the furnace, belong to you or to the public?—They belong to the public, but the repair of them belongs to me; they require renewal very frequently.

1267. Mr. *Hume.*] Will you describe the several steps of the process from the time you receive the metal until you deliver the bars to the moneyer?—The first thing is to attend at the Mint-office the weighing in of the bars, to agree their weights, to take the assay reports and ratings, and compute the standard.

1268. Do you compute that, or the surveyor of the meltings?—I compute it; the surveyor of the meltings has nothing to do with it. I do it either by myself or my clerk; I am responsible for it.

1269. That is not in the melter's office?—No, in the Mint-office.

1270. Mr. *Herries.*] That is the department of the Mint into which the bullion is first imported?—Yes, at the time it is in the custody of the King's officers of the Mint; having ascertained the number of ingots, and what are their descriptions,

Mr. *G. F. Mathison.*

9 May 1837.

tions, I then enter them in the pot-book, according to their rates, ascertaining whether they are fine or coarse, agreeing with the Master's assayer to find out the proportions in which they shall be mixed together; sometimes the Master's assayer ties one ingot to another to effect a better combination.

1271. Mr. *Hume.*] From whom are the ratings taken?—From the report of the Master's assayer.

1272. Mr. *Warburton.*] Who makes up the pot-book?—I do. I then enter those bars into the pot-book, putting as many to each pot as I deem desirable, according to their weight, and according to their fineness. I then compute over again those ingots as they stand in the pot-book, agreeing the total with the total amount entered in the journal, and deliver the pot-book to the comptroller, in order that my computations may be checked by the Mint-office.

1273. Mr. *Hume.*] Who keeps the journal?—I keep one journal, the comptroller keeps another, Mr. Croasdaile keeps another, and the third clerk another.

1274. Are they all copies of the same pot entries?—They are all the same; they are kept separately; we each make our separate calculation and check each other; we agree, but we do not copy each other's books. If the Mint officers, on checking my pots, find that they are right, and that the due amount of alloy required to render them standard is entered, they then render them up to me. I take the pots, that is, the ingots belonging to each pot, and bring them into the melting-house.

1275. Is the alloy put in before it goes into the melting-house, or when?—The alloy is added afterwards; the amount of the alloy required is computed by me, and is checked by the King's officers.

1276. Sir *Thomas Fremantle.*] When you make up your pot-book?—Yes; so that they know the exact amount which is requisite.

1277. Mr. *Hume.*] That is the account entered in the pot-book?—Yes, in the manner set forth in the paper I hold in my hand; here is one paper for gold, and another for silver.

[*The Witness delivered in the same.—Vide* Papers (A) and (B.)]

Paper (A.)

Wednesday, 1 March 1837.

From The King, by purchase of Messrs. *Sharp.*

24 Silver Ingots.

1	Pot	-	70	12	9	10	477	B	17 ½	80	8 10
—	-	-	70	11	7	5	478		—	80	7 15
—	-	-	70	—	8	15	479		—	80	— 5
2	-	-	70	14	22	15	480		—	80	10 5
—	-	-	68	6	17	10	1		17	80	4 15
1	-	-	63	19	6	—	2		—	75	3 —
2	-	-	68	7	4	10	3		17 ½	78	1 10
—	-	-	67	19	4	—	4		—	77	8 —
3	-	-	70	2	22	—	5		—	80	2 —
—	-	-	70	15	7	10	6		—	80	10 10
—	-	-	69	15	23	15	7		—	79	9 5
4	-	-	71	18	15	10	8		—	82	2 10
—	-	-	69	14	21	10	9		—	79	8 10
—	-	-	68	2	2	—	490		—	77	10 —
—	-	-	69	3	5	10	1		—	79	— 10
5	-	-	68	12	18	—	2		17	80	9 —
—	-	-	75	17	18	5	3		17 ½	86	8 15
3	-	-	66	14	9	—	4		—	76	3 —
5	-	-	69	3	5	10	5		—	79	— 10
6	-	-	69	10	21	5	6		—	79	5 15
—	-	-	69	15	23	15	7		—	79	9 5
		-	69	11	14	15	8		—	79	6 5
		-	67	16	19	10	9		17	79	9 15
		-	63	17	20	—	500		—	75	2 —
			1,661	5	16	—	Gross weight - -			1,909	9 10
							Standard - - - -			2,059	4 8

Mr. G. F. Mathison.

9 May 1837.

Tuesday, 7 March 1837.

First Pot.

No. of Ingot.										
477	70	12	9	10	-	-	-	80	8	10
478	70	11	7	5	-	-	-	80	7	15
479	70	-	8	15	-	-	-	80	-	5
482	63	19	6	-	-	-	-	75	3	-
	275	3	7	10				316	7	10
					Alloy	-		24	9	10
								341	5	-

W. H. B.

T. P. C.

Second Pot.

480	70	14	22	15	-	-	-	80	10	5 -
481	68	6	17	10	-	-	-	80	4	15 -
483	68	7	4	10	-	-	-	78	1	10 -
484	67	19	4	-	-	-	-	77	8	- -
	275	8	-	15				317	-	10 -
								24	9	14 15
								341	10	4 15

Third Pot.

485 | &c. &c. &c.

Wednesday, 8 March 1837.

Silver Melted.

No. of Pots.	Ingots.				Alloy.			
1	341	5	-	-	24	9	10	-
2	341	10	4	15	24	9	14	15
3	342	-	13	11	24	11	18	11
4	343	11	1	4	25	1	11	4
5	346	8	6	16	25	-	1	16
6	343	6	4	2	24	11	4	2
	2,059	5	10	-	149	8	-	-

Produced in Bars.

1	92	6	
2	90	4	
3	91	7	
4	65	-	
			339 5
5	90	2	
6	89	2	
7	81	1	
8	78	11	
			339 4
9	99	10	
10	82	-	
1	81	-	
2	77	11	
			340 9
3	91	1	1,019 6
4	89	9	
5	91	6	
6	69	3	
			341 7
7	90	11	
8	89	9	
9	81	1	
20	67	8	
			329 5
1	92	5	
2	82	5	
3	82	5	
24	84	4	
			341 7
			2,032 1
Ends - - -			
Grains - -			
Assays - -			
Lack - - -			

Mr. *G. F. Mathison.*

9 May 1837.

Friday, 10 March 1837.

Received from the Melter, in standard silver bars, twenty-four drafts, being twenty hundred and thirty-two pounds and one ounce, troy weight - - - - - - - - - - - - - -	2,032	1

(Signed by a Moneyer.)

---

10 Scissell. 5 Ends. 2 Light. 17 Journies.	Received from the Moneyers, in standard silver scissell, seventeen journies, being one thousand and twenty pounds troy - - - - - - - - - -	1,020	–

(signed) *G. F. Mathison.*

Paper (B.)

Thursday, 2 March 1837.

From Messrs. *Sharp*, 11 Fine Gold Ingots.

4 Mar.	1st Pot	12 16 17 46	1	B	1 2 7/8	14	11	5 –
–	–	12 17 – 38	2		—	14	11	9 –
–	–	12 17 21 14	3		—	15	–	1 –
–	–	12 12 5 4	4		1 2 3/4	14	11	7 –
–	–	10 13 19 52	5		1 1 7/8	14	6	14 –
–	–	11 5 7 60	6		—	15	4	2 –
–	2 –	11 6 15 4	7		1 2 1/4	14	6	1 –
–	–	11 18 6 48	8		—	15	3	– –
–	–	11 6 19 48	9		—	14	6	4 –
–	–	11 18 5 12	10		—	15	2	19 –
–	–	8 2 22 10	11		1 2 7/8	9	5	15 –
		127 15 21 16	Gross weight - -			158	8	17 –
			Standard - - - -			170	4	5 6

Saturday, 4 March 1837.

First Pot.

		Messrs. Sharp, 2 March.	
No. 1	12 16 17 46	- - -	14 11 5
2	12 17 – 38	- - -	14 11 9
3	12 17 21 14	- - -	15 – 1
4	12 12 5 4	- - -	14 11 7
5	10 13 19 52	- - -	14 6 14
6	11 5 7 60	- - -	15 4 2
	73 3 – 22		89 8 18
		Alloy - -	6 7 16
			96 4 14

Second Pot.

		Ditto.	
7	11 6 15 4	- - -	14 6 1 –
8	11 18 6 48	- - -	15 3 – –
9	11 6 19 48	- - -	14 6 4 –
10	11 18 5 12	- - -	15 2 19 –
11	8 2 22 10	- - -	9 5 15 –
	54 12 20 58		68 11 19 –
		Alloy - -	4 11 12 6

Mr. *G. F. Mathison.*

9 May 1837.

Monday, 6 March 1837.

Gold Melted.

Pot.	Ingots.	Alloy.		Produced in Bars.	
1	96 4 14 –	6 7 16 –	1	52 7 18	
2	73 11 11 6	4 11 12 6	2	43 7 –	96 2 18
Lbs.	170 4 5 6	11 7 8 6	3	45 5 17	
			4	28 2 17	73 8 14
					169 11 12
				Melter's Ends -	
				Assays - - -	

Tuesday, 7 March 1837.

Gold Bars (delivered to the Moneyers.)

1	- - -	52 7 18
2	- - -	43 7 –
3	- - -	45 5 17
4	- - -	28 2 17
	Lbs.	169 11 12

Tuesday, 7 March 1837.

	lbs.	*oz.*	*dwts.*
Received from the Melter, in standard gold bars, four drafts, being one hundred and sixty-nine pounds, eleven ounces and twelve penyweights, troy - - - - - - - - - - -	169	11	12

(Signed by a Moneyer.)

Thursday, 9 March 1837.

Gold scissell - - - - - 94 8 14

Received from the Moneyers, in standard gold scissell, ninety-four pounds, eight ounces and fourteen dwts. troy - - - -	94	8	14

(signed) *G. F. Mathison.*

1278. The papers you have now delivered are not accounts made out *pro formâ*, but accounts of actual work done?—Yes, they are; the numbers on the papers refer to the ingots; we lock up the bars till they shall come to be melted, which is done by me.

1279. Who locks them up?—I lock them up in the melter's stronghold, and the surveyor of the meltings passes his own key over it.

1280. Is it not left under your single charge when once delivered from the comptroller and other officers?—I am liable for it from that period.

1281. Of what use then is the surveyor of the meltings' check?—The use of his check is, I apprehend, to preserve the identity of the ingots.

1282. Where is that stronghold situate?—Adjoining the melter's office.

1283. Distinct from the office where the gold is first received?—Yes.

1284. Is it a strong closet made on purpose?—Yes, vaulted.

1285. Do you see any use in that check on the part of the surveyor of the meltings over you, he having taken an account of that delivered to your charge?—I think it is very proper; if it were not for that, how could there be a certainty of the identity of the ingots; supposing I were to replace a fine ingot by a coarse one, the whole standard would be altered.

1286. Would not that appear from the pyx trial, and would not you be responsible?—Certainly I should. I consider it a great comfort to myself; it is a great extra security.

1287. Mr. *Goulburn.*] Are you aware of any inconvenience or delay that results

Mr. *G. F. Mathison.*

9 May 1837.

results from that security?—Not the least in the world; the surveyor is bound to be always there when it is wanted to be delivered out; we agree together when it shall be taken out the following morning, or whenever it is arranged that those ingots shall be melted, we take them out of the stronghold. We have a pot-book, and we arrange the ingots in order according to their numbers, according as they stand in the pot-book, which is done by the surveyor and the melter conjointly; having ascertained which are the ingots that are to be melted in numerical order according as they stand in the pot-book, we charge them into the pots.

1288. Mr. *Hume.*] What is the average weight you charge?—Of gold we generally charge about 100 lbs., and of silver from 300 lbs. to 400 lbs., according to the size of the ingots, according to the description of coin we require.

1289. Do you speak of lbs. weight?—Yes, of lbs. troy; the moulds in which sixpences are poured are much smaller than those in which we pour half-crowns.

1290. Mr. *Hume.*] Are the Committee to understand you melt smaller quantities when you make small coin?—Yes, the metal cools; the process of pouring is much longer when we make small bars, and the metal changes its state.

1291. They are smaller, according to the coin required?—Yes, in melting for fourpenny pieces they are required to be so small we are not able to use the usual pots.

1292. In melting for fourpenny pieces, what size pots do you use?—We generally use small pots of 50 or 60 lbs., to my loss; the next process is to add the alloy, which is an important part.

1293. Do you do that alone, or does the surveyor of meltings attend you in that operation?—The usual practice is for the melter to weigh it first, to place it in bowls, which are numbered according to the order of the pots, and then the surveyor of meltings checks my weights.

1294. You mean wooden bowls, for the purpose of collecting it?—Yes, we have had occasional mistakes, and mixed up one alloy with another; we found having bowls numerically numbered prevented those mistakes; the surveyor then checks my weight and takes out any alloy if he finds the weight is excessive; and if it is right, hands it to the workmen to put into the pot; nothing is then added to the pots; they are melted and stirred well, in order that the metal may be well combined, and then poured off into moulds, which form bars fit for rolling.

1295. What sized furnaces do you use; how many pots do you put in?—One pot into each furnace.

1296. Mr. *Goulburn.*] What is the size of the pot?—The size of a hat; we melt 5,000 *l.* in a pot the size of a hat; in melting silver the size is much greater.

1297. Mr. *Hume.*] What time is taken to melt a pot of 100 lbs.?—About one hour; a pot of silver generally two hours; it is rather rapid, with reference to foreign mints, for no mint possesses such capabilities as ours; in melting gold we have six furnaces, we are able to melt 300,000 *l.* value in one day of 12 hours, that is, 60 pots, containing each something above 100 lbs.; I have melted in four furnaces as much as 40 pots in a day since I have been in the office, in 12 hours, without any accident, that is, between 4,000 lbs. and 5,000 lbs. weight.

1298. Mr. *Wall.*] Do accidents often occur?—There is great risk of them; I have had the contents of a whole pot in the ash-pit before now. With reference to the silver, we can also use eight furnaces, melting 32 pots of 400 lbs. weight each, 12,800 lbs.; our usual maximum is about half that, 6,400 lbs. in a day.

1299. Mr. *Hume.*] After the gold is taken out and put into the pots, is there any person interferes with you as a check?—The surveyor of the meltings is present all the time, and sees it done.

1300. *Chairman.*] For what purpose is the surveyor of meltings present?—In order to see to the identity of the ingots, and to see that nothing is added except that stated in the pot-book.

1301. Mr. *Herries.*] Then he is a check upon your proceedings?—Yes, a very important check.

1302. Mr. *Hume.*] Can he attend during the whole 12 hours that it is in operation?—He is obliged to do so; it is very laborious indeed during a heavy coinage.

1303. *Chairman.*] In point of fact, is it the case that he is never absent?—He is never absent when we melt, day after day, which was the case on the great recoinage; it was very laborious.

1304. Mr. *Hume.*] Are you aware whether he makes a report to the Board daily

Mr. *G. F. Mathison.*

9 May 1837.

daily of the melting in your department?—I am not aware that he does; the Board obtain a knowledge of what we do by our delivery, which is immediately; an assay is then taken off each bar by the surveyor of the meltings, and sent to the King's assayer.

1305. Every bar of what weight?—We generally cast them into four bars of 25 lbs. each, and two assays are taken off each lot.

1306. By whom?—My workman cuts them off, under the inspection of the surveyor; we send them to the King's assayer.

1307. What quantity is cut off?—About a pennyweight; a small bit; he keeps an account of the weight.

1308. Are three assays always taken?—Yes, I think so; two or three; sometimes the King's assayer, finding the pots rather uncertain, orders another assay to be taken; it rests entirely with him; he orders the surveyor to make whatever assays he thinks necessary.

1309. Mr. *Herries.*] It is usually two for gold?—Yes, and three for silver; we then lock up the bars in the stronghold.

1310. Mr. *Hume.*] Who is "we"?—The surveyor of meltings and myself; where they remain until the King's assay-master reports that they are standard; upon the report being made that they are standard, an arrangement is made with the moneyers to receive them, and with the weigher to weigh them; they are taken up to the Mint-office, where they are passed through the same scales by which I receive them; the moneyers then sign a receipt, which is my acquittance for the amount.

1311. How long are they kept in the stronghold before they are assayed and delivered?—There is no very regular rule; generally, I think, a day or two.

1312. *Chairman.*] Can you suggest any alteration of the system you have just described, by which delay might be obviated consistently with the safety of the public?—No, I think that is a thing the assay-master must answer; it is not for me to say how many assays he should make.

1313. What is the average delay which takes place in your office?—That depends upon the quantity I melt; if I melt 40 pots in one day, that would require a longer time to deliver; it is more convenient to us to check our books, to have them included in one delivery.

1314. Suppose the value of 100,000 *l.* is sent in by the Bank, and it is desirable that all possible expedition should be used in converting that value of bullion into coin, about how long do you think the detention in your office would be?—I scarcely remember an instance in which I ever kept anything in my office longer than the following morning; what I receive one morning I melt the next, and if I received 100,000 *l.* I should melt it the following morning. I apprehend the assay note would be lodged with the assayer the next afternoon.

1315. Do the Bank never complain of delay in the melting-office?—Not with my knowledge; it is impossible there could be a delay. I am not conscious of the possibility of such a thing; I have a positive interest in it; the sooner I get rid of it the better. There are occasions I might mention in which a delay might be brought about in the process of coinage, owing to the bullion sent being coarser than the standard, because when bullion is sent finer than the standard, all we have to do is to add the alloy in the melting-house; that does not occasion delay; but if the amount of the bullion sent be coarser than the standard, it becomes imperative upon the Mint to refine a certain portion, in order to carry off that coarseness, and to refine a certain number of ingots must necessarily take a few days.

1316. Mr. *Herries.*] The delay then arises not in the process of melting, but in that of refining, which becomes necessary in consequence of the bars being too coarse?—Yes; with reference to one occasion, I stated that if notice had been given we might have prevented it by refining gold already in our possession, so as to have the fine gold ready to meet theirs; but if they send without any notice, the process of doing that must impede us.

1317. Mr. *Hume.*] You say that upon the understanding that there should be gold ready in the Mint at the time to employ immediately to mix with the coarser gold sent in by the Bank, that thus you might save the time consumed in refining the coarser gold?—Yes, that we might have been, and that if the Bank had given us notice we would have been prepared; it was at the time of the pressure on the Irish banks.

1318. Are the Committee to understand that you had metal in hand you might

Mr. *G. F. Mathison.*

9 May 1837.

might have so prepared?—Yes, we had other metal belonging to the Bank, which might have been prepared.

1319. That preparation could have taken place only with the metal in hand belonging to the same parties?—I do not apprehend that makes much difference, for the moment a Mint bill is given the metal ceases to belong to the parties.

1320. It is your opinion that in consequence of a quantity of fine gold being kept in the Mint ready, importers might have the process of coining much facilitated?—No, I think not; I do not think there are importers to whom it is much an object; it is very rarely that it happens that the metal is coarse.

1321. Mr. *Warburton.*] What has been the saving in the melting of silver in consequence of using iron pots instead of earthenware pots, which were formerly used?—A very great saving; all the time I have been in office we have not used earthen pots.

1322. Was Mr. Mushet the person who introduced the iron pots?—Mr. Morrison introduced them; he was melter; he did it at his own expense.

1323. Do you mean Mr. Morrison, the present deputy-master of the Mint?—Yes.

1324. Who made the experiment on which the present use of the pots is founded?—I understand that it was made by Mr. Morrison.—Mr. *Morrison.*] I first introduced the use of iron pots before Mr. Mushet came into the Mint, but they were not brought to perfection till after Mr. Mushet came in.

1325–26. What situation did you then hold?—I held the contract for melting.

1327. Mr. *Warburton.*] The difficulty in using the iron pots turns upon the melting point of iron and the melting point of silver not being very different?—Yes; we were using earthen pots; before we used wrought iron pots; the difference of one and the other is very great.

1328. What has been the saving arising from the use of iron pots as compared with earthenware?—The experiment was not so much for the saving as that we could not melt the silver in black-lead pots; in earthenware they would hold only 60 lbs. weight; it became necessary we should put in about 400 lbs. weight, on account of the size of the ingots, into the pots, and we could not get earthenware pots to hold that quantity.

1329. How much longer do the iron pots last than the earthenware used to last?—They last a very considerable time longer.

1330. Has it not led to a considerable saving?—I think there has been a considerable saving, but not having used earthenware pots of late, I cannot state the amount of that.

1331. The difficulty arises in the proportion of the fire?—Yes, we tried to melt in the French fashion; we had furnaces built like those at Paris and at Brussels, and like those they have at Lisle, but we could not bring out the metal standard; they were what they call reverberating furnaces.

1332. What has been the saving resulting from the use of iron pots?—I can form no comparison.

1333. *Chairman.*] Was it considerable?—I should think it would be considerable, for we used a great number of black-lead pots; they were used only for one melting; whereas the iron go on several times.

1334. At what period was this experiment made?—It began in the year 1805, before we came to the new Mint.

1335. Was any alteration made in the contract with the melter?—There was no alteration made at that time.

1336. Was that taken into consideration by Lord Maryborough?—Yes, not so much with regard to the iron pots, but that the melter would have nothing to do but to attend to the melting-house; whereas I had all the deputy-master's business to perform as well as the melting.

1337. Is the Committee to understand that it is your belief that the saving caused by the invention you have mentioned, was taken into consideration in the reduction of the contract made by Lord Maryborough with the melter?—That, together with the other circumstance.

1338. Mr. *Warburton*, to Mr. *Mathison.*] Do you know what saving has resulted?—No, I cannot say the exact saving, but there has been a great reduction in price, and that is considered as very much caused by that change.

1339. Do you believe there has been great economy in the substitution of iron for the earthen pots?—I do; I have occasionally used the earthen pots, and I always

I always found that I lost by it in melting; for the fourpenny pieces the bars required were so small, it has been an advantage to use a smaller kind of pot, and I find that I lose more than I do by the earthen pots.

1340. *Chairman.*] To what do you attribute the great difference in the cost to the public of melting and fabricating the coin in France and in England?—I do not feel myself competent to give a decided opinion on the subject; but I think it is to be referred to the difference of expense in almost everything; persons who perform every duty in France require less for their services throughout the whole of the business, from the head of the department to the lowest department.

1341. Do you conceive the difference of prices and the cost of labour are sufficient to account for so great a difference as exists between the French and the English Mint?—No, I do not.

1342. Mr. *Warburton.*] Have the French adopted the use of cast-iron pots?—No, they use much larger wrought-iron pots. There is one point with reference to the question which has been asked, which is, that in the French mint the mint masters being contractors for the supply of bullion as well as for the coinage, are always able, when the price of silver is sufficient, to keep themselves at work; our prices are of course in some degree higher than they otherwise would be, because our work is so very uncertain; we have, for instance, during the last six months had no coinage at all, and I confess, as far as my anticipations went, I thought we should have a great deal; it is a matter of great uncertainty.

1343. Mr. *Herries.*] You are retaining the workmen all the same?—Yes.

1344. Mr. *Wall.*] You mentioned, as connected with the French mint, the assayer; is there not more than one assayer in the French mint?—Yes.

1345. How many?—I think there are four or five.

1346. Any assistants?—I include assistants.

1347. Are they all under one head?—Yes, Monsieur Darcy is the chief assayer, and I think he has two assayers under him.

1348. Are they paid by the government?—Yes.

1349. Are not each of those assayers to a certain extent a check upon what you call the intermediate process?—No, they are not employed; their services are not required; their business is to assay the coin after it has been fabricated.

1350. Can you state what the duty of each of those assayers is?—No, I could not particularize from memory.

1351. Mr. *Herries.*] It is in all cases to assay the coin after it has been produced, to ascertain on the part of Government that it is correct?—Yes.

1352. They are not employed to make any assays during the preparation of the metal for the coin?—No.

1353. All that is performed by the contractor and his own assayers at his own cost, and in his own manner, as he pleases to do it?—I believe so.

1354. Mr. *Wall.*] How many checks are there altogether in the English Mint?—There is a check taken by means of an assay after each melting.

1355. Is there any check now existing in the English Mint which you think might be safely dispensed with?—I cannot give an opinion upon the subject; I am inclined to think that it is desirable to have as many checks as possible; safety is a matter of opinion; it depends very much upon the responsibility of the individuals.

1356. Sir *Thomas Fremantle.*] Do you think it would be safe to dispense with the attendance of the surveyor of meltings?—No, I think that his attendance is important.

1357. Mr. *Herries.*] Do you think fewer assays might be made without danger to the public interests?—I have seen so many instances of a pot being stopped, I feel it difficult to say exactly; I can give an account of the number of pots which have been proved to have some irregularity attaching to them, from which the Committee can judge of the value of the check.

1358. Will you prepare a return of the number of pots melted in each year, and the number stopped?—Yes.

1359. Mr. *Hume.*] What establishment do you keep in the melting-house?—I have one clerk, and I should say four workmen.

1360. Are they paid by the Mint or by yourself?—The clerk is paid partly by the Mint, and partly by me; he receives much more from me than from the Mint.

1361. What does he receive from you on the average of years?—That is a private transaction between me and him.

Mr. *G. F. Mathison.*

9 May 1837.

1362. To Mr. *Morrison.*] What does the Mint pay that clerk?—They pay him 80 *l.* a year; he is called the second clerk of the melters, because Mr. Mathison is called first clerk; that is Mr. Robert Mushet.

1363. Mr. *Herries*, to Mr. *Mathison.*] He is a probationer?—Yes; I found him in the office; he was employed by his uncle.

1364. Who appointed him?—He was appointed by Lord Auckland.

1365. Mr. *Hume.*] Have you three or four men in the office generally?—I should say I require four men.

1366. Is that the whole establishment as it regards wages?—It depends altogether upon the amount of work; if we had a great deal we should want more.

1367. What are the names of the workmen; Richard Lynn is one of them, is not he?—Yes.

1368. What wages do you pay him per day?—I pay him 4 *s.* a day, I think, and so much a pot; 1 ½ *d.* I think.

1369. What do you pay Benjamin Ward; he is another?—I think I pay him the same; I am not sure whether it is 1 *d.* a pot.

1370. What do you pay Robert Elliott?—I have long ceased to employ him.

1371. Who are the others?—I have Bill.

1372. How much a day has he?—Five shillings a day, I think, and no pots.

1373. How long is it since Elliott left your service?—I cannot say exactly; but I should think two years.

1374. This Bill succeeded to the duty he did?—No, I do not know that he did; Robert Elliot was a bricklayer; he used to repair the furnaces, and to be useful in that respect, and to help in melting as well.

1375. Have you any other workmen?—I have two others.

1376. What do they receive?—I give one man 100 *l.* a year.

1377. What is his name?—His name is Chenel; he is a Frenchman.

1378. Is he employed in the melting-house?—Occasionally.

1379. Is he employed in the other department?—His principal department is in the refining; my workmen are drafted from one into the other. When I state four as melters, that is as few as could be kept by any one; I mean at this moment. I have had 12 at once.

1380. Supposing you had no refining, how many would be required to be employed in melting?—I should say four.

1381. *Chairman.*] Are the same men employed in the refining?—I employ them in both.

1382. Mr. *Hume.*] Do you pay those men yourself entirely?—Yes.

1383. What other expenses are there connected with your department besides those you have mentioned?—I have the expenses of fuel and pots, and keeping the furnaces in repair.

1384. Do you supply that which the indenture points out?—Yes.

1385. Are those men paid all the year round those wages, or only when they are at work?—They are paid all the year round; I suppose if there were a stoppage for six months, it might be possible to allow them a little less, and to let them get their work elsewhere; but, I like to keep my men all the year round, because it keeps them steady.

1386. Are you aware whether the wages paid in France to men so employed are higher than those you pay?—No, I am not; I should think not, certainly.

1387. Mr. *Warburton.*] What is the comparative price of fuel?—I cannot say; paying 6 *s.* a day is an inducement to any French workman to come to me.

1388. *Chairman.*] In point of fact, either in the melting or refining department, have you pretty constantly work for those men in your office?—I conceive between the two that I have.

1389. Mr. *Wall.*] Is the health of the men affected, so that they are unable to stand it for any great length of time?—Yes, the refining has a very mischievous effect on the trachea.

1390. Sir *Thomas Fremantle.*] When the melting department is in full operation, you require a greater number of persons?—Certainly.

1391. What is the greatest number you have had when you melted 40 pots in one day?—That would have required five men.

1392. Mr. *Warburton.*] Do you call in occasional workmen?—Yes.

1393. What is the comparative expense of fuel here and in France; do you use coke or charcoal?—We use coke for melting both gold and silver; I cannot say what is the comparison of the expense.

1394. Do you not apprehend that it is less here than in Paris?—I cannot say.

1395. Mr. *Hume.*] By the contract, you are to find melting-pots and other articles; can you state what is the difference in the expense of melting-pots?—I cannot say; they use large wrought-iron melting-pots for silver, which is their chief article of manufacture, and we use cast-iron pots.

1396. What is the nature of the stands which are mentioned in the return?—I cannot say; I have none in use at present.

1397. Mr. *Warburton.*] What is the comparative expense of cast-iron and wrought-iron pots?—I cannot state; wrought-iron pots would not answer with us; there is a much larger surface of metal exposed to the atmosphere, therefore there is more oxydation, which the French avert by adding copper, which we are prevented doing, except by the authority of the King's assay-master.

1398. Mr. *Goulburn.*] Was the Frenchman, who is employed by you in the Mint, employed in the French mint before he came here?—No; there is no doubt a person holding my situation in France, in every position of society, would do it for at least one half of the emoluments which I receive; I conceive that to be clear.

1399. The general scale of income in France is less?—Yes, in every instance.

1400. *Chairman.*] It appears from the statements that have been submitted to the Committee, that there has been some difference of opinion between yourself and the comptroller of the Mint with regard to the question of the alloy which is sometimes added to the scissel-pots; you have stated in your letter to the Master of the Mint, that you consider whatever is gained by adding copper alloy to the scissel-pots, to be your perquisite?—I have.

1401. Do you conceive that independently of the question of your right to this perquisite, any public inconvenience would result from a different arrangement being made, and whatever is gained by the copper added as alloy to the scissel-pots being carried to the public account?—As far as I am concerned there is no difficulty, provided it were done in such a manner as to be an equivalent.

1402. The Committee are to understand that you see no difficulty, on public grounds, in that alteration being made?—I do not.

1403. You state that as far as your interest is concerned, it is very trifling in the continuance of the present system?—That I cannot speak to; I say it may or may not be so; it is impossible for me to express a confident opinion upon the point. I have stated the result of the last six years, agreeably to the plan of compensation proposed by Mr. Barton; the difference between the present practice and his new plan would not have made much difference to the public.

1404. What would be the effect of Mr. Barton's new plan?—The effect of Mr. Barton's new plan, according to my judgment, would be to delay the working of the coinage, and to render my profit a matter of uncertainty; for I might be subject to greater loss than I at present sustain, and could not tell in the least degree certainly what the compensation would be.

1405. What do you mean by a greater loss than you at present sustain?—What I mean is this, that when scissel is melted over and over again, there is a considerable loss by oxydation; that loss arises from a variety of circumstances; it may arise from an original defect in the quality of the silver, from the state of the copper, or a variety of circumstances over which the melter has no control may create a loss of a considerable amount; the alloy added must also be considerable, so that if the melter be held bound to sustain that loss, and the public are benefited by the addition, the public would in fact profit by my loss.

1406. Supposing the public took the loss upon itself, and took to itself any profit made under this system?—Then they must abolish the contract system; agreeably to the contract system I am bound to make up all the loss, and in the strict execution of my contract I am bound to bear the risk; the practice of the Mint is pleaded by me as an immemorial practice, which gave this allowance as a sort of help or set-off to the melter, but owing to the strict letter of the Mint indenture, there is no provision made for the melter receiving this benefit.

1407. You are of opinion that the indenture requires an alteration in that respect, in order to decide more clearly than it does at present this point?—I think so; the immemorial practice of the Mint and the minutes of the Mint Board are my authority on the point not provided for by the indenture, which nevertheless occasions expense to me, as with reference to the remelting of those stopped pots

Mr. *G. F. Mathison.*

9 May 1837.

so frequently; the indenture supposes the operation is to be done perfectly, and we find, practically speaking, there are obstructions and extra expenses; these have been met by certain ancient practices, confirmed by the minutes of the Board.

1408. Sir *Thomas Fremantle.*] Do you obtain any additional allowance for re-melting the stopped pots?—Not of silver.

1409. In conformity with the minute of the 5th of May 1830?—That has been carried into effect with reference to the gold in some cases.

1410. *Chairman.*] What is the plan suggested by Mr. Barton?—I do not understand that very exactly; I have felt that for receiving the alloy I rectified the stopped pots. Mr. Barton's plan is, that I should be paid for the stopped pots, and the public have the alloy; I conceive that would not be so beneficial for me and would impede the public service.

1411. In what way would it impede the public service?—It would occasion the pot to go through the assay again; if the pot is stopped by the King's assayer to-day, he knowing the causes for which it was stopped, and the defect, can always by the present practice regulate it and order me to melt it again; and as he was the proper person to stop it, he was the proper person to remedy it; but, according to this new plan, it must be passed to the Master's assayer, and he must state the grounds of stoppage, and he must make a fresh report; I must then make a fresh combination and a fresh rating, and there must be a reweighing, and the pot must be reweighed again under the usual terms, instead of being passed, and melted again immediately under the forms which have been used of late; that might make a difference of a week.

1412. Mr. *Herries.*] Would additional security be obtained by the public?—I think not; I think the King's assayer's trial is sufficient to act upon.

1413. What has been the practice for some time back?—For the pot to be adjusted by the King's assay-master.

1414. Is there any record in the Mint of a different practice having existed formerly?—No, up to the minute of May 1830, the matter appears to be a little involved in some obscurity, and no person can explain how far it interfered with the present practice.

1415. *Chairman,* to Mr. *Barton.*] You have heard the observations Mr. Mathison has made on the question of copper alloy added to the scissel-pots; have the goodness to make any observations you think necessary to the Committee on that subject?—I think, from what I understand Mr. Mathison to say, he has been proceeding inconsistently with the minute of the 5th of May 1830; I think that the melter, from what I have heard, has satisfied the Committee of his interest in the benefit to be derived by the addition of this alloy, for he has stated it is directly contrary to the terms of the indenture and his agreement; it is his agreement I go on, not the Mint indenture.

1416. Mr. *Herries.*] He states that he has added what has been conformable with the practice, and what has been the recorded determination of the Board in the minute upon that subject, as being in contradistinction to the letter of the agreement; are you aware what has been the practice for any length of time?—I know one case in point very similar, to my mind, and on which Lord Maryborough decided; it was a case in which the King's assayer directed that a certain quantity of copper, over and above the quantity set out in the pot-book, should be added to the ingot-pots at the first melting, to produce the metal a little nearer to the standard; and in that case Lord Maryborough decided that the melter was not to have the benefit of that alloy, and that I think is a case in point; for it is the same thing in effect, adding copper to the ingot-pot in the first instance and adding it to the scissel-pot, for the ingots must be melted whether that copper is added or not, so must the scissel-pots whether it is added or not; so that when the copper is added to the scissel at the first melting, I should imagine that profit ought to belong to the public, inasmuch as by the terms of his contract he undertakes to bear the waste in melting; and the refinement of the metal is certainly waste in melting.

1417. Was that to which you allude a very special case?—It was the only case that ever occurred; it occurred, indeed, twice. Lord Maryborough made a minute in the first instance, and the Board recapitulated that minute in the second.

1418. Did that appear to involve a decision on the general practice with respect to the admission of alloy?—The alloy added to scissel is not mentioned in these minutes; they merely directed the benefit, which was to be derived by the admission of the alloy to be brought to the public account.

1419. What

Mr. G. F. Mathison.

9 May 1837.

1419. What was the practice of the Board with respect to the general course of coinage?—The practice has been, up to the 5th of May 1830, that the alloy added to the scissel should go to the benefit of the melter.

1420. With the exception of those special cases to which you have adverted?—Yes, those were what we call ingot-pots.

1421. So far as you are aware, the practice with regard to the ordinary proceedings in the Mint, in respect of the addition of alloy, has been to give the melter the benefit of the addition?—That practice had received no contradiction till that minute was made on the 5th of May 1830; it was on the strength of that minute I founded my objection to his having it; for that minute states that he is not to have it in future; that no alloy should be added to the scissel-pots. It repeats the words of the indenture.

1422. Mr. *Warburton.*] What is your view as to the expediency and policy of allowing this benefit to go to the melter?—I think there is not the least objection to making the metal as near to the standard as possible, and if by the addition of a small quantity of alloy that can be done, there is not the least objection to it in my mind; but when it is added, I think the public should derive the benefit from it, for this reason, that those scissel-pots to which the alloy is added would, probably, exceed in error the remedy allowed to the Master for the fallibility of workmanship, and would be liable to be stopped by the King's assayer. There is a remedy allowed to the Master, which I apprehend is for the very purpose of meeting the refinement which takes place.

1423. *Chairman.*] Still you think it desirable that the Mint should work as close to the standard as possible, without reference to the remedy?—Certainly; the remedy is one pennyweight in fineness for the silver, and one-sixteenth of a carat, or 15 troy grains, for the gold.

1424. Mr. *Herries.*] Does it happen in the English Mint that that remedy is availed of?—No; the officers of the Mint have no right to avail themselves of the remedy; it is merely against accidents; they have no right to work to the extent of the remedy.

1425. Does the trial of the pyx show that in the English Mint they work much more close to the standard than in other countries in general; more than in France, for instance?—The deviation from the true standard, by the trial of the pyx, is very small indeed.

1426. Nothing like the extent of the remedy?—No.

1427. Mr. *Warburton.*] Is it as often over as under?—It is never beyond the remedy; the coin as to fineness has always been reported standard.

1428. Do you think there would be any delay attending the doing away this allowance in the melting?—I think that supposing the plan I have suggested is adopted, the delay will be very trifling, because I think the stopped pots will be very few; it is only in the case of a stopped pot any delay can occur.

1429. Would the delay of a week to 10 days take place, which has been adverted to by Mr. Mathison?—Whenever a stopped pot should occur, there would be a delay, but I do not think it would extend to that time, not quite so long as a week or 10 days.

1430. *Chairman*, to Mr. *Morrison.*] With reference to the difference of opinion which has existed between the melter and the comptroller with regard to the alloy added to the scissel-pots, will you have the goodness to state to the Committee whether in your opinion the alterations proposed by the comptroller in the existing practice might be advantageously adopted?—I consider they are attended with all those difficulties and delays, and a great deal more work, as Mr. Mathison has stated; that the other is much shorter and much more decisive. If you give a discretion to the King's assayer to add that small portion of copper to the scissel necessary to make it standard, I call it an adjustment; it is a little deviation which the assayer directs, a refinement which is to take place, and is therefore a waste to the contractor, which he conceives ought to be made good to him; it has always therefore been left to the King's assayer; and in my practice, when I was melter, which was many years back, succeeded very well.

1431. Supposing the King's assayer and the melter had an improper understanding upon this subject, might not a very large quantity of copper alloy be added to the scissel-pots without the possibility of detection, under the present system?—I should say not, because the King's assayer has to decide upon the coin, and he would find the coin on the wrong side of the question when he came to pass it.

Mr. *G. F. Mathison.*

9 May 1837.

1432. Is there not room enough between the standard and the remedy to enable the King's assayer and the melter, if they were to agree upon such a course, to get into a habit of adding copper to the scissel-pots, which might, without taking the coin without the remedy, yet bring it nearer to the remedy than it ought to be, or than it would be in the common course of business?—I do not think he could go to that extent; the King's assayer wants to come as close to the standard as possible.

1433. The question supposes a case in which the office might not be held by a person of as high character as it is at present, and that he might have a corrupt understanding with the melter, and that those two officers might combine to adopt a course of putting copper into the scissel-pots, might not that be carried on to some extent, and partially without detection?—The King's assayer must be subject to the trial of the pyx.

1434. Provided he took care to keep within the remedy, the trial of the pyx would not detect such a fraudulent practice, would it?—The trial of the pyx we look upon is not to keep the monies just within the remedy, but to be near or exactly the standard; the King's assayer would be in considerable hazard in these days, if it was found that the money was not so good as it ought to be, and as has been the practice.

1435. Do you not think, dealing with the very large sums the Mint does, that by collusion copper might be introduced into those pots if the King's assayer and the melter understood one another upon this point?—It might be introduced no doubt, but I cannot conceive it could be to any great extent.

1436. Might it not be to a great extent, considering the extent of our coinage?—Mr. Mushet was desirous that the King's assayer might have a certain allowance on every scissel-pot: he had made a calculation that there must be so much refinement, and that he ought not to bear that; but the King's assayer could not agree to that; he said it must depend upon the run of the work.—Mr. *Mathison.*] I would beg to state, with respect to the possibility of collusion, that would imply also collusion of the whole Mint-office, because no alloy, according to the present system, can be added to the scissel-pots without being entered in the books of the surveyor of meltings, and reported to the Mint-office; consequently, if an excess of alloy were added in an unusual degree, to an extent to create a great benefit, the Mint-office would all be cognizant of it, and would inquire why should this take place.

1437–8. Would not the report of the King's assayer be sufficient, under the present system, to warrant the melter in adding copper to the scissel-pots, without the sanction of any other officer?—Yes, according to the present practice; but it is publicly known.

1439. Mr. *Hume.*] Are the Committee to understand that alloy cannot be added without its being known?—It cannot.

1440. Have you no furnaces on the premises but the furnaces you use for the public; no private furnace in the Mint, where melting can take place?—No, there is not. When I made my contract, I took my situation to be the same as that of my predecessor, and that I had the same advantages, and was subject to the same risks as my predecessor. When Lord Ashburton decided the question, he said, "It involves a subject of price; it is a very fit subject for future revision, and it is a very fit question whether the melter, who receives 10*d.* a lb. and a perquisite, should receive more than 10 *d.* and no perquisite; the question of perquisite, therefore, becomes a question of price."

1441. *Chairman.*] Can you state to the Committee what is the value of this perquisite?—I can refer to an account for the last 20 years in which it is stated. I should remark, that I never saw this account until it was drawn up; I never referred to anything beyond my own experience. During the period I have held the situation, the perquisite has not been very considerable; but during preceding periods, when the coinage was very great, it has been very considerable.

1442. What has it been in your time?—From the year 1816 to the year 1837 it has been, on gold, 32 lbs. 11 oz. 13 dwts. 17 gr.; in value, at 10 ½ *d.*, it has been 1,540 *l.* 14 *s.*: that is, upon a coinage of 55,151,720 *l.* The alloy, added to silver, has been 1,661 lbs. troy, 1 oz. 4 dwts. 14 gr.; in value 5,481 *l.* 12 *s.* 9 ½ *d.* on 10,260,275 *l.*

1443. Can you state the amount in your own time, which is eight years?—On gold 2 lbs. 1 oz. 17 dwts. 12 gr.; in value, 102 *l.* 13 *s.* 11 ½ *d.* In silver, 124 lbs. 11 oz. 18 dwts.; value, 412 *l.* 8 *s.* 5 ½ *d.* I would remark, with reference

Mr. G. F. Mathison. 9 May 1837.

ence to this subject, that it depends very much on the quality of the gold and of the silver; there must be a great deal of alloy added at one time and not at another; there is a great difference in the coinages. I never made up any two accounts that agreed in reference to waste. I know how the old system has worked, and I cannot tell how the new one might work. It is quite clear, according to this, that the relative weight added has been less than it was formerly: there is a great deal of difference in the waste, according to the mode of melting; if it was at the risk of the public, I have no doubt that, by carelessness in the management, there might be great loss.

Jovis, 19° die Maii, 1837.

MEMBERS PRESENT.

Mr. Goulburn.	Lord Viscount Lowther.
Mr. Herries.	Mr. Pattison.
Mr. Hume.	Mr. Wall.
The Right Hon. Henry Labouchere.	Mr. Warburton.
Sir Charles Lemon.	

THE RIGHT HONOURABLE HENRY LABOUCHERE, IN THE CHAIR.

Mr. *John Pearson* called in, and Examined; and Mr. *James William Morrison* further Examined.

Mr. *J. Pearson.* 19 May 1837.

1444. *Chairman*, to Mr. *Pearson.*] WHAT situation do you hold connected with the Mint?—Bullion porter.

1445. How long have you held that situation?—From the 5th of April 1828.

1446. What are your duties?—My duty is to attend all bullion that comes in, and deliveries of coin. If you will allow me, I will read them as stated in a paper which I produce.

[*The Witness read the same as follows:*]

The duties of the Mint or Bullion porter are:—"Indenture 1st. To attend the office daily, if required. Indenture 2d. To be present at all importations and deliveries at the office. Regulation 3d. To mark on the assay paper the weight of each ingot weighed at the scale. Regulation 4th. To arrange, with the assistance of the master's porter, the ingots in the stronghold, and put them together in pots to be carried down to the melting house. Regulation 5th. To oversee the under-porters and helpers, in giving all proper assistance at all the weighings in, and in the receipt into the Mint of all bullion, and deliverance of monies or bullion. Regulation 6th. To give the regular notices for the attendance of the officers and other persons at the office for business, and to do all such service as shall be directed by the Master or Board. Regulation 7th. To order, under the direction of the Board, the necessary stationery for the office, and to deliver the same to the several officers, and to keep the stationery book, with all receipts and vouchers."

1447. You reside at the Mint?—Yes.

1448. What is the salary attached to your office?—£.70 a year.

1449. You have a fee, I believe, besides?—Yes, 3 *d.* on each ingot.

1450. You mean upon each ingot imported into the Mint?—Upon each ingot imported into the Mint.

1451. Each gold ingot?—Each gold ingot.

1452. Have you anything connected with the silver coinage?—Only on private coinage.

1453. Have you kept any account of the sums you have received from these fees upon the importation of gold ingots?—Yes; I have an account, which I believe is pretty nearly correct.

1454. State what that account is?—Shall I give it each year?

1455. If you please?—It is not quite correct, but I believe it is pretty nearly so. In 1828, fees, 45 *l.* 12 *s.* 9 *d.*; 1829, 67 *l.* 17 *s.* 3 *d.*; 1830, 68 *l.* 8 *s.*; 1831, 96 *l.* 5 *s.* 9 *d.*; 1832, 72 *l.* 3 *s.*; 1833, 24 *l.* 8 *s.* 3 *d.*; 1834, 14 *l.* 10 *s.*; 1835, 19 *l.* 6 *s.* 3 *d.*; 1836, 32 *l.* 17 *s.* 3 *d.*; 1837, 2 *l.* 4 *s.* 9 *d.*

1456. Is this all gold?—Not quite all.

1457. Does

Mr. *J. Pearson.*

19 May 1837.

1457. Does that account include what you have received on account of the private silver coinages executed at the Mint?—Yes; it is included in this.

1458. In short, are the sums you have now read the total amount of all the fees you have received of every kind during those years?—Not quite all. There are some little items which I have not got an account of.

1459. What items do you allude to?—Occasional deliveries of coin that I have not got.

1460. What do you get for that?—It is paid generally at the time of delivery, and I did not keep an account of it.

1461. By whom is it paid?—By the importers of bullion.

1462. Do you know at what rate the charge is made?—No.

1463. What is the fee on delivery?—Six shillings either on a small or large delivery.

1464. Six shillings upon any delivery of coin, whatever is the amount of that delivery?—Yes.

1465. Do you know upon what authority these fees are paid to you?—By the Mint indenture.

1466. To Mr. *Morrison.*] Can you inform the Committee under what authority these fees are paid to the bullion porter at the Mint?—Only by usage and custom. They have been stated in finance reports that have been made from the Mint.

1467. In point of fact, has not the Bank lately discontinued paying these fees?—Within the last three months I understand.

1468. Both upon the importation of ingots and the delivery of coin?—Not the delivery, I understand.

1469. When Messrs. Sharp lately sent gold ingots to the Bank for coinage, did they pay these fees?—They have charged it in their report to the Committee, and it appears they paid it.

1470. And did they pay the fee upon the delivery of the coin to them by the Mint?—I believe so; I think that is in the statement that they rendered; I only know it through that; I do not know it officially.

1471. Are the fees paid to the bullion porter by the parties who come to the Mint for private coinages of silver, voluntary or compulsory?—They must be voluntary.

1472. To Mr. *Pearson.*] Do you know whether there are any fees of a similar description received by any of the other porters or servants of the Mint?—No, believe not.

1473. Mr. *Warburton.*] What fee is it that you allude to as receiving on the private coinage?—Three pence an ingot, and six shillings on the delivery of the coin.

1474. Mr. *Herries.*] You have been in the habit of receiving a fee on all bullion imported, except the property of the State, as in the case of silver coinage?—Yes.

1475. Mr. *Wall.*] When the Bank declined the payment of the fees, was any remonstrance made on your part?—No; they said it was merely for a time. There was something going on that they wished to ascertain before they paid it. That I believe was the only observation that was made.

1476. Mr. *Herries.*] It was not stopped as a positive denial to pay, but suspended?—Suspended.

1477. That was your understanding of it?—Yes.

1478. *Chairman.*] Do you receive any fee connected with the fining department?—I have not received any. I understood I was entitled to a fee of 3*d.* an ingot on refined gold and silver, but I have not received it.

1479. Mr. *Herries.*] From what source did you understand that?—From the person I succeeded.

1480. Who had been in the habit of receiving it?—Who had been in the habit of receiving it.

1481. When did you succeed to that person?—On the 5th of April 1828.

1482. Mr. *Hume.*] What other allowances do you receive? It is entered here in the list, "Sweeping the Mint premises, 35 *l.*;" do you receive that?—Yes.

1483. What do you do for that?—I sweep the premises, and when I have assistance I pay the person.

1484. What premises do you mean?—The whole of the interior of the Mint.

1485. The melter's and the assayer's department?—All round the court-yard, the interior.

1486. Not within the buildings, only without the buildings?—The outside of the buildings.

1487. Have

Mr. *J. Pearson.*

19 May 1837.

1487. Have you any duty to do in the interior of the building?—Nothing in the interior.

1488. Have you nothing else but that to do?—No.

1489. That makes your salary in these two situations 105 *l.*, exclusive of what you receive for fees?—Yes.

1490. Have you any other perquisite?—No.

1491. Were you employed in the Mint before your employment in 1828?—I was employed as messenger.

1492. How long had you been in that situation?—Nearly twelve months.

1493. By whom were you paid as messenger?—By the Mint; two guineas a week.

1494. Is there any messenger now upon the establishment?—Yes.

1495. Who is messenger now?—A person of the name of Taylor.

1496. Mr. *Wall.*] The 105 *l.* you mentioned is exclusive of the fees upon coinage?—Yes.

1497. Mr. *Hume.*] Have you, as porter, control over any other part of the establishment?—When there is any business going on in the Mint Office with regard to the importation of gold or silver.

1498. What is your duty in that case?—To attend all importations and weighing.

1499. Have you any authority over any other persons that are employed in the Mint?—No further than for their assistance.

1500. *Chairman.*] What are the duties of the master's porter?—I can scarcely say what his duties are.

1501. Mr. *Hume.*] What are his duties?—To attend the scales at the time of weighing in gold or silver.

1502. Mr. *Wall.*] You have stated you order the stationery; do you do that without reference to the gentlemen in the various offices?—No; it is signed by the Board.

1503. Mr. *Hume.*] Do you make the indent, or is it prepared by the Board?—It is sent up to the Board.

1504. By you?—Yes.

1505. And how do you distribute it? Is there any order of the Board as to the mode of distribution?—Yes; there is always a requisition passed by the Board before the stationery is given out to each individual.

1506. Where do you get it from?—From the Stationery Office.

1507. Is that quarterly?—No; when it is requisite to order any, the order is made out and sent up to the Board and signed.

1508. Is it your duty merely to divide according to the quantity directed for each person?—Yes; and to take charge of it when it comes in.

Mr. *G. F. Mathison*, Mr. *Henry Bingley*, Mr. *William Henry Barton*, and Mr. *James William Morrison*, called in; and further Examined.

Messrs. *G. F. Mathison, H. Bingley, W. H. Barton,* and *J. W. Morrison.*

1509. *Chairman*, to Mr. *Mathison.*] DO you produce the accounts with which, at your former examination, you were requested to furnish the Committee?—Yes.

[*The witness delivered in the following Accounts:*]

AN ACCOUNT of Silver Pots stopped, and the Number melted, from 1828 to 1836.

YEARS.	Pots stopped.	WEIGHT.	Number of Pots melted.	
		Lbs. oz. dwts.		
1828	- - -	nil.	50	
1829	- - -	nil.	124	
1830	- - -	nil.	nil.	
1831	6	1,911 7 –	43	133 small pots.
1832	- - -	nil.	8	68 ditto, 60 lbs. to 80 lbs.
1833	- - -	nil.	- - -	67 ditto - ditto.
1834	45	15,730 8 –	819	173 ditto - ditto.
1835	7	2,549 3 10	254	
1836	21	8,193 8 –	611	
	79	28,385 2 10	1,909	441

Messrs. *G. F. Mathison, H. Bingley, W. H. Barton,* and *J. W. Morrison.*

19 May 1837.

AN ACCOUNT of GOLD POTS stopped, and the Number melted, from 1828 to 1836.

YEARS.	Pots stopped.	WEIGHT.			Number of Pots melted.
		Lbs.	*oz.*	*dwts.*	
1828	11	1,125	2	6	465
1829	6	616	8	12	910
1830	14	1,341	2	4	964
1831	4	411	4	14	285
1832	20	1,912	6	–	1,501
1833	9	853	5	18	522
1834	- - -	nil.			48
1835	12	1,182	5	16	471
1836	35	3,508	2	14	763
	—	10,951	2	4	5,929

1510. Mr. *Hume.*] In answer to question 1233, you state that there is an allowance for waste: is not that waste recovered in the sweep?—No, it cannot be; it may be in part. What I should call waste, would be the real waste.

1511. Explain how that waste arises?—The waste arises partly from mechanical causes, and partly from the oxydation of the copper contained in the combination of metal.

1512. Is there any great loss by the oxydation of the copper?—There might be very great, indeed.

1513. Mr. *Warburton.*] That does not cause a waste of the noble metal?—No; but of the alloy.

1514. Mr. *Hume.*] Is not the alloy put in supplied at the expense of the Government?—Yes.

1515. Then how can there be a loss in the oxydation?—Because I am debited by the Government for the whole amount, supposing it to be gold; if I have to add to 100 lbs., 10 lbs. of copper, I am debited for 110 lbs. standard.

1516. When the waste takes place, do you not supply a sufficient quantity of alloy to make up the standard again?—No, I am not allowed to do so.

1517. Are you not directed by the assay master, when the pots are stopped, to put in the requisite quantity of alloy, and is not that alloy supplied at the expense of the Government?—I think it is.

1518. Then, where is the loss accruing to you from the oxydation of the copper?—Because the assay master does not necessarily allow as much alloy as will make good the waste.

1519. It has been stated that directions were given to add the requisite quantity, and it appears by the evidence that that is supplied at the expense of the public: how do you explain therefore that the assay master will not allow the requisite quantity?—I have no means of knowing the grounds on which the assay master draws his conclusions as to the state of the metal. All I know is, as a matter of fact, that I have a greater waste after the metal goes out of the pot than before it goes in.

1520. Do you in fact supply the alloy added to make up for that waste at your own expense?—I should say it is not added necessarily.

1521. Mr. *Warburton.*] Is it not added practically?—It does not follow because those pots are stopped, that they require more copper.

1522. Mr. *Hume.*] Are not the pots frequently stopped, being too fine?—Sometimes they are, and sometimes they are not.

1523. Are they not sometimes stopped?—Sometimes.

1524. Then what is done to make them standard? Is it not done by adding alloy?—Generally speaking, when pots are stopped, it arises from some mixture of the pots together, or some such cause. Perhaps if one pot is too fine, another is found too coarse, and the two are mixed together, so that the combination becomes perfect.

1525. Where, by the mixture of two pots or two ingots, the standard is not formed, are you not obliged, by the directions of the assayer, to add alloy to make the standard?—Such is the case.

1526. Then is not that alloy supplied at the public expense?—Yes.

527. Then where (to come back to the point) is the waste arising from the oxydation

Messrs. *G. F. Mathison, H. Bingley, W. H. Barton,* and *J. W. Morrison*

oxydation of the copper?—In that case there would be a waste in the second melting.

1528. In the second melting, when it assumes the character of scissel, is it not in the same manner made standard by adding alloy?—No, not always.

1529. If it is not standard; if it is too fine; do you mean to say you are not called on and directed to add alloy, to make it standard?—It is added occasionally, but I cannot say whether it is always added when it would bear it; I have no means of knowing.

1530. Do you attend yourself when the pots are made up?—Yes.

1531. Do you never see alloy added?—Of course I always see when it is added.

1532. Who supplies that alloy?—The public.

1533. Then will you explain how the loss arises to the melter, if the public supply all the alloy requisite to make up the standard?—The loss arises, as far as I can understand the question, from the unavoidable fact, that if you mix a certain quantity of copper and gold together, the produce is less in weight than it was before. It differs under a variety of circumstances.

1534. Will you explain how the loss arises to the melter, if the public supply all the alloy requisite to make up the standard?—I say that the public do not necessarily do it.

1535. Mr. *Warburton.*] Do they not practically do it?—I should say most positively they do not.

1536. Mr. *Hume.*] Then, if they do not, in what manner is the standard made up?—That rests with the king's assayer to explain. Not that I know of. I should suppose not; because I find, from practice, that I melt a given quantity, and when I weigh the produce, that produce weighs less than the two metals in their divided state.

1537. Then is the Committee to understand, that in scissel pots there is no assay made to ascertain whether it is standard; too fine or too coarse?—I did not say that.

1538. An assay is made?—An assay is made.

1539. If it is too fine, what is done?—I do not know the grounds on which the king's assay master directs his practice. He is bound to produce a combination as near standard as is practicable. I cannot tell what exact degree of approximation to standard each particular pot may possess.

1540. Does not every pot vary, being too fine or too coarse?—I should suppose it did.

1541. Is it not the duty of the assay master, then, to make it standard?—As near standard as his art will permit him.

1542. How can he do that, if it is too fine, but by adding alloy?—I am not aware of the grounds on which he regulates his practice.

1543. Is not alloy added, in every such case, to make it standard?—

1544. (To Mr. *Bingley.*) Will you explain in what manner the alloy is added when the pots, either ingot or scissel, are too fine, in order to make them standard?—I would recommend the Committee to bear in mind, that there are two descriptions of pots; first, ingot pots, and secondly, scissel pots. The alloy to the ingot pots is added by the authority of the Mint Office, consequent upon the report of the Master's Assay Office, to produce the standard; for every pound weight of copper added, he is answerable back again to the office for so much standard gold; therefore, if he loses the copper in the first melting, he loses so much standard gold to his own injury. With reference to the scissel, it is a distinct case. If I examine a certain number of ingot pots, I know from the quality of them what in all probability will be the state of the scissel subsequent to the second melting. A certain additional portion of copper is sometimes added previous to the subsequent melting, and that copper is at present to the advantage of the melter.

1545. Who supplies that copper?—The melter himself; because he has now the profit arising from it.

1546. Is not that copper supplied to the scissel pots to make up for the oxydation and waste which has taken place in the melting of the ingot pots?—Chiefly to make up the waste which will take place in the melting of the scissel; and in consequence of my ordering alloy previously, I hardly ever have to stop a scissel pot.

1547. If you make that allowance, what waste can take place in the melter's department?

Messrs. *G. F. Mathison, H. Bingley, W. H. Barton.* and *J. W. Morrison.*

19 May 1837.

department?—He may waste upon the melting of the ingots; but if I have applied sufficient alloy to the scissel, the gain there will make up for the waste.

1548. But do you not, in what you have said, make some allowance, in mixing the ingot pots, for the waste that may take place in melting, so as to keep within the standard limits?—I can only answer that question by saying, that I judge of the ingot pots wholly with reference to the standard. I allow them to pass into work or not, according as I think them sufficiently near or not to the standard.

1549. But by the knowledge you have, you are able to direct, and do direct, if it should be too fine, the alloy necessary to make up for the waste which has taken place?—Certainly.

1550. Then is all the alloy that is added to both ingot pots and scissel pots at the expense of the Mint?—I have already stated, that the alloy added to the scissel is added by the melter for his own advantage.

1551. But does he pay for the copper so added, or does the public pay for it?—He pays for it I believe; it is very trifling.

1552. Mr. *Warburton.*] Could not this loss, which it is said the melter incurs from the oxydation of the copper, be entirely removed, by giving him metal of a somewhat greater weight and inferior fineness, so that the excess of weight, and the inferior fineness, would be completely corrected during the process of melting?—If I understand the question correctly, it means, whether by beginning with a greater proportion of one, and a less of the other, the effect of the melting might not render them standard. That might be done; but there are objections in the previous part of the Mint business to that; it would be objectionable as regards the importer.

1553. Why so?—The master's assay master who examines it before I do, should give the importer, to the best of his judgment, the exact value of the bullion he brings in weight as well as fineness.

1554. Is there not a certain average loss which occurs in all the processes of melting, in consequence of this oxydation of the copper?—There is a certain loss, but the extent of it will depend on circumstances, and it varies each time according to the mode in which the melting is conducted.

1555. Mr. *Herries.*] It is not uniform?—No; there is no uniform loss; it depends on the heat the melter uses, and various causes; but you might form an average.

1556. Mr. *Warburton.*] There might be an average made, which, after certain experiments, would approach to accuracy within certain limits?—Yes.

1557. Then would not the most certain way of obtaining a certain quantity of metal of the standard degree of fineness be, before the melting, to make it rather inferior in fineness, and rather exceeding in absolute weight?—Possibly; but that would derange the whole Mint system, for everything is by weight and fineness to the importer.

1558. Mr. *Herries.*] It would be putting a great discretion in the hands of the king's assayer?—I confess I do not see the practicability of the plan now suggested.

1559. Sir *C. Lemon.*] The effect would be, doing by previous estimate what is done afterwards by a knowledge of the fact?—If you wish the metal after melting to be no worse than standard, instead of making the calculation for the standard, you must make the calculation under the standard, and the melting may perhaps bring it up to the standard. You might make a combination, and calculate upon the effect of the melting to bring it up to the standard, provided the refinement by melting were uniform.

1560. Mr. *Warburton.*] Having ascertained by all your previous trials, that there is a certain average loss from the oxydation of the copper during the melting, would not the most likely way of arriving in each melting at the actual standard be to have the metal of a certain degree of inferiority and fineness, and a certain excess in absolute weight, in order to arrive, after the melting, at a definite weight of metal, and to a definite degree of the standard fineness?—It might be done, certainly, if reference to the importer were not necessary.

1561. Sir *C. Lemon.*] Do you see any probable advantage in that mode of computation, throwing the error on calculation, rather than resting it on a subsequent knowledge of the fact?—No, I cannot see any advantage in it; it should be the object first of all to produce the combinations as near as possible to the standard, and then when any deviations occur, to correct them by the readiest means the Mint possesses.

Messrs. *G. F. Mathison, H. Bingley, W. H. Barton,* and *J. W. Morrison.*

19 May 1837.

1562. Mr. *Warburton.*] When you know beforehand that the effect of the melting will be to reduce the absolute weight and increase the fineness, is not the obvious way to arrive at the necessary result to add beforehand those ingredients which you know are calculated to produce the correct result?—That is going upon the supposition that the effect of melting is uniform, which is not the case: besides, an importer would not understand such calculations.

1563. Mr. *Herries.*] As the loss in the operation of melting is apt to vary, though you make a calculation beforehand, founded on an average, you yet might have on, another operation, still to adjust?—Yes; or to allow metal to pass into work not so near the standard.

1564. The effect would be, that the adjustments would be less in degree, and less frequent than at present, but still adjustment would be necessary?—I should say there is less occasion for adjustment now than there would be according to that system. Then I must be altering my practice constantly. Mr. *Mathison.*] May I be allowed to state that the combination of ingots varies very considerably; and as the value of each ingot is calculated on a small bit taken from it, if there should be any difference in the combination of the metal between the middle and any other part, the whole calculation might be wrong.

1565. Mr. *Hume,* to Mr. *Mathison.*] You have stated you have known seven or eight scissel pots stopped by the King's assayer?—Yes.

1566. Has that been for being under or over standard?—I do not know; I have not been made acquainted with the reasons, but I should apprehend it was from a bad mixture of the metal.

1567. Is it possible for the melter to add more alloy than the King's assayer directs?—No.

1568. You think it is not possible?—I think it is not possible.

1569. In those two returns which you have produced, there are 79 stopped pots out of 1,909. Is the Committee to understand that that is the whole that has been stopped from 1828 to the present time?—To the best of my knowledge and belief, errors excepted.

1570. You keep an account of the pots that are stopped?—Yes.

1571. Does not the surveyor of the melters do the same?—Yes.

1572. And you believe the account which you have put in to be one which his return will correspond with?—Yes.

1573. Are you able to state from this return of the gold pots stopped, what was the cause of their being stopped?—No.

1574. Is the Committee to understand, that all alloy added to scissel pots, to make them standard, is supplied at your expense?—I believe so.

1575. Cannot you give a distinct answer. Is it so or not?—I believe I pay for it, but the amount is so trifling, that off hand I could not tell.

1576. Mr. *Herries.*] Is it not understood that you are to pay for it?—I do not like to speak to a matter of fact very positively; I speak to the best of my knowledge.

1577. Mr. *Hume.*] You were asked, in question 1266, "Do the furnaces, the machinery, and other apparatus about the furnace, belong to you or to the public?" to which your answer was, "They belong to the public, but the repair of them belongs to me; they require renewal very frequently." Now will you state whether they require renewal monthly or quarterly, or how often?—It depends on the quantity of gold and silver melted in them. It depends also on the discretion of the melter whether he shall repair them or not more frequently. There is a variation. If you repair them very frequently, the consumption of coke is less. If you leave them long without repair, the consumption of coke is greater.

1578. You were asked, in 1271, with reference to the fineness of the metal, from whom the rates were taken, and your answer was, "From the report of the master's assayer." You are now asked whether at the same time you see the King's assayer's report?—No.

1579. In the paper you delivered in, as to some metals that were supplied by Messrs. Sharp, if there is a quarter of a pennyweight more than the 17 or 17½ as entered there, what becomes of it; to whom would the profit go?—To the importer. It is generally allowed for according to the assay; supposing the 17½ pennyweights to be a little degree better, there may be a reduction made from another ingot, and so the whole is combined to make it exact.

Messrs. *G. F. Mathison*, *H. Bingley*, *H. Barton*, and *J. W. Morrison*.

19 May 1837.

1580. And in page 68, if the quantity is greater than is stated there, does the importer also get the benefit of that?—If there were more, he would.

1581. It is stated in this report, that the amount put in is 170 pounds, 4 ounces, 5 pennyweights and 6 grains, and the produce in bars is 169 pounds, 11 ounces, 12 pennyweights, by which there is a loss of 4 ounces, 13 pennyweights and 6 grains; who suffers that loss?—The melter.

1582. That is your loss?—It is not the real loss. There is an allowance here, melter's ends and assays.

1583. Can you state how much of the waste is recovered by the sweep. Have you any estimate of it?—It is a part of my own books, which, as contractor, I consider private.

1584. You sell the gold and silver sweep?—Yes; it is taken by the Birmingham sweep-washers: fuel being cheaper there than in London, they do it at a less price there.

1585. As the whole of the sweep is sold by you, are you able to state the average proportion of the waste that is recovered by that means?—I could do so, by reference to my books.

1586. Have you any objection to give in the statement to which you have referred?—I can hardly say. The Committee have the power of calling for it, but I should not volunteer it; for I consider that it is my experience, and that it is valuable. It is the experience of a manufacturer during a certain period, and is a part of my livelihood. I have told the chairman that there is no information with which I am not perfectly ready to furnish him, but I should draw a little distinction between what is given in evidence here and what is laid before members of the Committee for their information. There are many points upon which, if the master of the Mint or this Committee should wish me to furnish them with any information, I should be ready to give it; but at the same time I should throw myself upon the hands of the Committee as to how far experience, purchased by myself, ought to be called for.

1587. Mr. *Hume*.] Now you are referred to questions 1408 and 1409. You are asked, "Do you obtain any additional allowance for remelting the stopped pots?" and your answer is, "Not of silver." You are then asked, "In conformity with the Minute of the 5th of May 1830?" and your answer is, "That has been carried into effect with reference to the gold in some cases." You are now asked, What are the cases in which that allowance is made?—I cannot, from memory, state the exact cases; but I could produce an account which would show the number of pots that I have been paid for remelting.

1588. Is there, in the agreement, no article to which you can refer this Minute, to show the nature of the allowance?—The amount of it?

1589. No, the nature. You are asked, "In conformity with the Minute of the 5th of May 1830?" and your answer is, "That has been carried into effect with reference to the gold in some cases?"—It has been questioned by the comptroller of the Mint Board, whether I should be allowed for melting or not; and it has depended on whether the stoppage proceeded from me or from other causes, over which I had no control.

1590. (To Mr. *Barton*.) Will you state whether, in any and what cases, an allowance is made for remelting any stopped pots?—I am in the same position as Mr. Mathison at this moment. I must refer to the books to specify the cases. I can speak generally to the fact, that he has been paid for remelting pots which had been stopped by the King's assayer.

1591. Has that payment been made in conformity with the indenture or by a specific resolution of the Board?—It has been paid under that very Minute of 1830 that was referred to, and which is printed.

1592. *Herries*.] It would seem to depend on the circumstances of each particular case whether allowance should be made for remelting or not?—If two pots are stopped in consequence of a change of ingots; if the ingots of the two pots have been mixed together in the melting house, which has happened on one or two occasions, then the melter is to blame in that case, as well as the surveyor of the meltings, and the melter ought to have seen that the right ingots went into the pots as well as the surveyor of the meltings; and therefore, I believe, there are one or two instances in which we decided that the melter was not to be paid for remelting, because he was the party to blame.

1593. It depends, therefore, on the merits of each particular case, whether you make the allowance for remelting or not?—Yes; these are extreme cases, where the

Messrs. G. F. Mathison, H. Bingley, W. H. Barton, and J. W. Morrison.

19 May 1837.

the weight of the pots will decide whether any error of that kind has taken place or not.

1594. Does the judgment upon that point rest with you as comptroller?—Not individually with me; individually I have a right to object to it.

1595. Mr. *Warburton.*] You have stated the cases in which the melter would be paid; what are the class of cases in which he would not be paid?—If we can trace the source of error to his door, to any negligence on his part, we do not make the allowance; but if it is not to be traced to him, we pass the account.

1596. Mr. *Hume*, to Mr. *Mathison.*] You have stated that you considered the expenses of coining in France were less, because the whole process was performed by one contractor, while the operation in England is under two different establishments, melters and moneyers; and that you consider you could not apply the same men to the different operations of the Mint; the Committee wish to know whether the men you employ, or the men the moneyers employ, might not with great ease be applied to carry on the whole process?—I do not think so.

1597. After melting, are not the men occasionally employed after the usual hours of three or four o'clock in refining?—They are employed at all times in refining; my two establishments are united together.

1598. Are they not occasionally employed in refinery after the usual hour of four o'clock till late?—Yes, whenever they are wanted they are. It is not usual for them to do both of the works the same day, but they do it if it is wanted.

1599. In these cases are they paid extra?—No; I consider they are paid by me for a certain number of hours' service, and I give them so much a day for serving me. They must do whatever service I set them about.

1600. If the whole of the operations were under you, or any other single individual in the Mint, as they are in France, are you able to state whether any and what proportion of saving would take place?—I do not think that on the ground of the union of workmen it would make any material saving. I think the persons required to perform the duties of melting would not be found competent to perform the duties which the moneyers are required to perform. At present they would not; besides which, the process of melting, and rolling, and coining, is constantly going on at the same time, and it is necessary that there should be a certain number of persons always ready to discharge every duty on the same day.

1601. Then from what would the saving arise?—I have not myself alluded in particular to any. I have stated in answer to question 1243, that a person having a very large business indeed, double the business, would of course receive a remuneration, and would probably execute that business on lower terms.

1602. *Chairman*, to Mr. *Morrison.*] With reference to the question of the alloy in scissel pots, upon which a difference of opinion has arisen between the melter and comptroller, you stated that you did not agree with the opinions expressed by the comptroller; do you think that any alterations in the present system are advisable with regard to this alloy?—I think not; I am an advocate for continuing that discretion to the King's assayer which he has always had.

1603. Do you think any better limitations could be put to this discretion than those that at present exist?—I think if a scissel pot was found to be very much under the standard, that it ought to be reported to the office by the King's assay master, describing how much it differed from the standard, and then it ought to be in the discretion of the Board to order as they pleased, either alloy to be added, or the pot to be brought into the office and re-potted.

1604. According to the present system no such report is necessary?—No; I fancy the scissel varies very little from the standard. It is merely what I called the other day an adjustment.

1605-6. Supposing the scissel pot were somewhat over standard, what would you propose should be done in that case?—That is, supposing it was too fine?

1607. Yes?—If it was a grain, or a couple of grains in the pound, I should say, let the King's assay master adjust it, and order so much alloy to be put.

1608. Do you think in that case it would be desirable that the state of the scissel pot should be reported to the Board?—Not in that case.

1609. Mr. *Herries.*] Does it happen practically that the scissel pot is found to be worse than standard?—Hardly; there may have been cases. If a portion of

Messrs. *G. F. Mathison, H. Bingley, W. H. Barton,* and *J. W. Morrison.*

19 May 1837.

melter's ends, or ends that were not proper, which the surveyor of the meltings described, were added to the scissel, it might render it coarser than the standard; but it depends on the vigilance of the surveyor of meltings, not suffering anything that carries great coarseness about it to be mixed with the scissel. Thus, when two coinages are going on, one copper and one gold, it might so happen that in the returns from the moneyers there might be intermixed with the gold blanks, copper blanks. That would deteriorate the metal at once. The scissel would be worse than standard in that case.

1610. Are you of opinion, that, according to the present system, a degree of discretionary power is given to the King's assayer and to the melter, which upon principle it would be desirable to limit?—Yes; I think it might be limited if it were desired.

1611. And do you think that that discretion would be effectually limited by the mode you have suggested?—I think so. As I before mentioned, we must entirely trust to the King's assayer to report to us; he would have instructions, whenever he found the metal beyond a certain point, to report to the Board. There would be a great inconvenience where there was a small deviation from the standard in bringing the pot into the office to be re-made, or re-combined. We should thus lose considerable time, when it is very desirable that we should hasten the progress of the coinage as much as possible; and, therefore, when the deviation is small, I should advise that it be left to the discretion of the King's assay master to apply the remedy, in order to produce the standard.

1612. Have you considered what is the extent of deviation from standard, in which you conceive it would be expedient that the Board should be consulted?—Our calculations only go to the 8th of a carat grain, which is 7½ troy grains. If there should be a deviation to that extent, I think it ought to be reported to the office. We do not calculate under that; we might do so; it would then be an order for so many grains in the pound to be added to the pot.

1613. Mr. *Herries.*] You think the deviation of an 8th is about the mark?—Yes.

1614. Mr. *Hume.*] In that case the scissel pots would seldom or ever come within that regulation?—I do not think they would, unless copper blanks got mixed, or any other accident happened.

1615. Mr. *Herries.*] You think such a difference could hardly arise, except by accident?—Yes.

1616. And against such accident you propose to provide in the way you have suggested?—Yes.

1617. *Chairman,* to Mr. *Bingley.*] Will you state to the Committee your opinion upon the differences which have arisen between the melter and comptroller upon the subject of the alloy put into the scissel pots?—In offering my opinion upon the subject, I must set out with suggesting to the Committee the necessity for keeping the two great questions of profit and practice totally distinct. The question as to the profit to the melter is a question of prices, of contracts, and of precedents; and the melter has stripped this part of the subject of one difficulty, by stating to you his readiness to acquiesce in any substituted mode of remuneration of an equal amount. So far, I think, the melter's province peculiarly extends. With reference to the practice, however, I think not only my duty as King's assayer, but my situation as a Board officer, entitle me to an opinion; and in giving this opinion upon the alloy, I beg to express not only my own, but that of those whose length of service in the King's Assay Office has peculiarly qualified them to form a judgment on the matter. It has been already explained to the Committee the grounds on which I occasionally order alloy to be added to scissel pots; and this discretion, which is allowed to me as King's assayer, is so generally approved, that I need say hardly anything upon this head. It may be, perhaps, as well to state in addition to what has been said, that I have sometimes allowed a whole day's melting of ingot pots to pass into work, because I have the power of correcting the betterness there might be upon them, by a subsequent addition of alloy to the scissel that remains. Now, in entering upon the suggestion of the comptroller, as regards the practice he recommends, with reference to the melting-house and stop pots,—I have no hesitation in confirming the statement of the deputy master and the melter, that the propositions of the comptroller would create additional and unnecessary delays, and bear no comparison in a public point of view with the advantages even of the present system. It has been stated by the comptroller, as a probable effect of his plan, that there

Messrs. *G. F. Mathison, H. Bingley, W. H. Barton,* and *J. W. Morrison.*

19 May 1837.

there would be fewer stop pots than as at present: this, my practical knowledge compels me to deny, and for the reason upon which I ground this assertion, I would refer you to my Second Report upon this very subject. I would not have the Committee to infer, from what I say, that there is no alternative but to adopt the present, or Mr. Barton's plan; far from it. Should the Committee resolve that this system of remuneration to the melter should cease, I think I could myself suggest a plan, and submit it to the consideration of the Mint Committee, that would not involve the Mint in the loss of time and expense necessarily incurred by adopting the three resolutions in Mr. Barton's Report; and if this system is to be changed for another, I would strongly impress upon the Committee the advantage to be derived from the practical details of any new method being submitted to the opinion of those Mint officers whose station or appointment most qualify them to judge. I believe the suggestions of the comptroller have been confined to his Report, and submitted to the examination of no one until subsequent to their recommendation. The question of profit from the alloy, is, however, the first thing to be arranged; and as the question now stands between the melter and comptroller, the King's assayer has no interest whatever in it but that of the public, and his own character and responsibility. To him personally the whole subject is a matter of indifference, and it is on public reasons alone that his opinions are formed. The question of delays in coinage is very important, and every delay that can be avoided should. Mr. Barton's plan, as I understand it, would be to do a portion of the Mint business over again. The delay even of the ordinary operation of assaying has been alluded to, but I think it will be acknowledged by the Committee, that the operation of the assay is not the least important part of coinage, and I think they will find that this operation consumes but a very moderate portion of the whole time taken up in coinage; and with reference to the proximity of our coin to the trial plates of the country effected by the Assay Offices, the Committee should bear in mind that it has never been in the power of the jury of goldsmiths, to assert at the public trial of pyx, that there was the slightest deviation between the two.

1618. Are you to be understood as giving an opinion, that under the present system, supposing the King's assayer and the melter had an improper understanding between them, it would be possible for them to defraud the public to a considerable extent?—Yes; it would be possible. It has been hinted at as a possible case, that were the King's Assay Office and the melting department, at some future period, not to be filled by men of as high honour and character as the present officers, that, if the profit of alloy continues to the melter, a collusion might exist between them to the injury of the public, and to their own undue advantage. I will acknowledge at once the possibility of such a case, even in spite of any of the other constituted checks now existing; but what should I say in reply? I would say, that in some cases one, but generally any two principal officers in an establishment like the Mint, might lay their heads together and effect the same purpose. And from this may be derived a most important argument in favour of confining the appointments of the Mint to a class of men whose character and station in life are a guarantee and security for the interests of the public. It is my idea, that in an establishment like the Mint, it would be impossible to prevent any officers combining; and I admit the possibility of a collusion between an unprincipled King's assay master and an unprincipled melter. I allow that such a thing is possible; and in one case even a clerk alone was able to do it, and it was never detected till after his death. With reference to the Minutes of the Mint Board upon this subject, and from which a great deal of the doubt and difficulty has arisen, I think that such Minutes ought not to be taken into consideration at all; for I cannot conceive how it could ever have been the province of the Mint Board, by any Minute, to withhold the regular and accustomed profit of the melter, which he had derived by precedent or contract. A Board Minute may very properly regulate the details of business, but not the emoluments of an office. The claims of the melter to this alloy, rest upon the circumstances that existed prior to any Minute whatever on the subject.

1619. Mr. *Hume.*] Is the Committee to understand it to be your opinion, that the scale of remuneration and allowances should be previously fixed so as never to be a matter of deliberation with the Board?—I am alluding particularly to the case of the melter, whether he is to have the profit of the alloy.

1620. Is the Committee to understand that that should be decided previous

Messrs. *G. F. Mathison, H. Bingley, W. H. Barton,* and *J. W. Morrison.*

19 May 1837.

to the contract being made with him?—The contract should settle that point, not a Board Minute; that should not interfere with such a thing as a melter's claim to alloy. It is a question between the contractor and the Government.

1621. Are you not aware that allowances have been made to the melter for melting scissel pots or ingot pots, by order of the Board?—Never since I was a member of the Board. Mr. Mathison enjoyed the profit of the alloy for a length of time; and there came a Mint Minute, which made it doubtful whether he was to have it or not. I do not think it the province of the Board to settle such a question as that.

1622. *Chairman.*] Is it not often the case, that either the master of the Mint, or the Board of Mint officers, are called on to decide upon the interpretation of the contracts both of the melter and of the moneyers?—I apprehend, that if there was any dispute as to the interpretation of a contract, it should be referred to the law officers, the Board not being competent to decide upon the wording of any contract.

1623. Is it not often the case, that they are called on to consider the interpretation of the terms of a contract?—Yes; but the Board refer it to the law officers, they cannot decide it. I think, that in order to come to a satisfactory conclusion upon the question as to whether Mr. Mathison should have the alloy or not, you should advert to what his predecessor had. You cannot come to a conclusion by referring to the Minutes; they relate to particular individual cases, and will not settle the general question, as far as I understand it, between the comptroller and the melter.

1624. In the event of the contract with the melter being reconsidered, can you suggest to the Committee what would be the most desirable footing for this particular question to be placed on?—I would say, on public grounds, that the present system is good as regards expedition; but if it should be resolved that the principle is bad, and that the melter should not have that profit, I could suggest a plan which, as far as Mint details are concerned, would be as expeditious as the present.

1625. Mr. *Warburton.*] Supposing it to be considered desirable to get rid of that mode of remunerating the melter by perquisites, what is the course you would recommend as the best to be adopted for the despatch of business?—I should take a little time to bring before the Committee such a plan.

1626. Will you prepare such a statement for the information of the Committee?—I will, to the best of my power.

1627. *Chairman.*] Is the Committee to understand you to be of opinion, that upon the whole you think it desirable for the public service that the melter should receive this perquisite, rather than that it should be withdrawn, and that he should be compensated for that withdrawal in some other way?—I should say, that the melter being allowed to retain the profit upon the alloy, is bad, if an equally expeditious system can be discovered without it.

1628. You heard the evidence just given by the deputy master of the Mint upon this subject. Do you agree with him in the expediency of the limitation which he has proposed to the discretionary power of the melter and King's assayer?—I am very sorry to differ from him, but I do most decidedly differ; because, as long as the King's assayer is himself responsible, it should never be a question for the Mint Board to determine what shall pass into work; and I may say, that to my knowledge no case has ever occurred of a scissel pot being stopped for being too bad, unless from bad melting or fraud.

1629. Mr. *Warburton.*] It is almost always because they are too fine?—Yes, when stopped; but the advantage of the present system is, that I hardly ever have to stop a scissel pot. Questions have been put to me upon the assumption that scissel pots are occasionally stopped; but the whole working of the Mint system now is to prevent the necessity of a scissel pot being stopped; but if they are stopped, and I do not consider them near enough to the standard to pass into work, why it should be referred to the Board I do not know. It is the power which the King's assayer has of stopping every pot, or any pot, from passing into work, which constitutes the important check which he is upon the standard of the country. As to a deviation from the standard becoming the subject of question before the Board, as to whether it is to be passed or not, such a case has never occurred, and I should hope never would.

1630. You

Messrs. *G. F. Mathison, H. Bingley, W. H. Barton,* and *J. W. Morrison.*

19 May 1837.

1630. You being held responsible?—Certainly. I might have a member of the Board say, "Mr. Bingley, you think that pot is not fit to pass; a majority of the Board choose it to pass;" and yet I am responsible for the correctness of that metal. To my recollection a case never occurred, either in my father's time or my own, of a pot being stopped unnecessarily.

1631. *Chairman.*] Do you keep a regular record of the alloy put into the scissel pots?—No, I think not.

1632. Is a regular record kept anywhere?—It is kept publicly in the office.

1633. Is that record regularly submitted to the Board?—The alloy is added by an order from the King's assayer, which goes into the Mint Office.

1634. And the order states the quantity of alloy?—Yes; I ascertain the state of the metal, and if I find that it is necessary to add a few grains of alloy, I do so; but I cannot do it without its being publicly known. My order goes into the Mint Office, which the surveyor of the meltings acts on; but I do not keep any regular account beyond what is stated publicly in the Mint Office.

1635. You have stated, that you think upon the whole that it would be desirable for this perquisite to be retained by the melter. Can you explain to the Committee upon what grounds it is that you think it better for the public service that this mode of payment should be retained, rather than that it should be included in the general sum paid to the melter?—I stated that I am not at this moment quite aware of any plan that affords the same facilities for despatch that the present does.

1636. Explain your reason for making that statement?—Because the melter adjusts the metal at once, without it leaving his department and going into any other.

1637. Mr. *Warburton.*] Why could he not do that equally, supposing him not to be paid by perquisite?—I do not say he could not, but I request time to consider.

1638. State to the Committee how it is that greater despatch would arise from paying the melter by perquisite rather than by other means?—I think possibly the same advantage might be derived under one system as under the other.

1639. Mr. *Goulburn.*] Why should you pay a man by perquisite instead of by a salary?—I have no reason for preferring this system to another, taken abstractedly; rather the contrary in the case of the melter.

1640. Mr. *Hume.*] As disputes or differences have arisen under the present mode, would not that be avoided hereafter, if the melter was paid a fixed allowance?—I can see no objection to a fixed rate if the melter is satisfied with it; far from it.

1641. In what respect does payment by perquisite contribute to expedition?—Mr. Mathison adjusts little differences in the Melting Office, without its going through other offices.

1642. Why could he not do that equally under another system?—I think it might be arranged, by the plan I have in view.

1643. Mr. *Goulburn.*] Does not a great deal of the public interest depend on the negligence or care of the melter?—A great deal certainly depends upon the melter.

1644. Does his having a perquisite tend to make him more careful in the conduct of his operations?—Not that I am aware of.

1645. You stated in your evidence that some loss had been incurred in the Mint; has the public ever sustained any loss?—Not that I am aware of; I merely mentioned the subject, to show that such a thing as fraud might arise, not only by collusion between two individuals, but that even one person in some cases, if he were disposed to act fraudulently, might do so.

1646. On whom would the fraud to which you have alluded be committed?—It would have been on the public I suppose, if it had not been paid for by other parties in the Mint.

1647. Have the officers in charge of the bullion and coin in the Mint Office ever suffered loss?—Not that I know of, except in the case alluded to.

1648. What was the instance of loss to which you have referred?—The

Messrs. *G. F. Mathison*, *H. Bingley*, *W. H. Barton*, and *J. W. Morrison*.

19 May 1837.

instance of a clerk in the Mint. It was a case of fraud which was not found out until after his death.

1649. *Chairman*, to Mr. *Morrison*.] Can you explain that transaction?—I can. I understand the question to be, "Have the officers in charge of the bullion and coin in the Mint Office ever suffered loss in their respective situations." My answer is: Previous to the duty which has been imposed upon the clerks and others of telling the monies, the instances have been very rare, and the amount very small. Since 1816, when the telling of the silver monies was introduced, they have been more exposed to loss. In the year 1832, a robbery was committed by the late Mr. Fitzpatrick, the first clerk and teller in the Mint Office, by abstracting, at various times, silver coin from the bags in the stronghold (to which he had necessarily access in the execution of his duties), amounting to 290 *l.*, which sum was made good by the present deputy master, comptroller and King's clerk. After directing an inquiry to be made into all the circumstances by the solicitor of the Mint, by which it appears that no blame could be attached to any one but the late Mr. Fitzpatrick, inasmuch as the business of the office could not be carried on without placing a reasonable degree of confidence in the subordinate persons employed, Lord Auckland reported the fact of the robbery to the Treasury, stating the sum taken by Mr. Fitzpatrick (who died before the particulars of the robbery were ascertained) would be immediately replaced by the responsible officers. At the same time, an inquiry was directed to be made of the regulations in force for the custody of the bullion and coin, and some fresh precautions, as well as alterations of further security in the stronghold, have been since adopted, by which it is hoped the responsible officers will be protected from similar loss in future. It must, however, be obvious, that complete security can never be obtained, as long as confidence must be placed in the clerk in the counting of the silver monies, and in their temporary custody of the same. It is therefore of consequence, for the protection of the higher officers, that the clerks and others employed in this service should be of the most approved character, and paid in reference to the trust necessarily confided to them.

1650. So that in the instance mentioned by Mr. Bingley the public suffered no loss?—No.

1651. Mr. *Hume*.] Had that clerk the opportunity of going singly to the place where the money was lodged?—No; it was counted out in the Telling-room and put into bags and weighed by him. The bags were conveyed to the stronghold under the eye of one of the principal officers, but he contrived from the top of every bag to take out a quantity of silver coin. We wanted him to make up his account, and then we should have discovered the loss at once, but in the meantime he died.

1652. How long after he had committed the robbery was the loss discovered?—The stronghold was not fitted up as it ought to be, and the bags remained for some time. On the last day of the year we examined the stronghold and found the deficiency; we then called upon him to come and account for it, but he could not, he was ill, and died.

1653. The discovery was made on balancing the yearly account of stock?—Yes; we now balance every month generally.

1654. Mr. *Wall*.] In all cases are the officers of the Mint responsible for losses which may occur?—They are for losses of the sort I have been speaking of; but if there is a breaking in or a burglary, then it is a different thing.

1655. A loss in such a case as you have been referring to, would fall on the officers of the Mint?—Yes, such losses have always been made good, to my knowledge; I have had to make them good myself.

1656. Did not a robbery occur in 1831 or 1832 by a watchman?—Yes; we think that an alteration might be made for the better.

1657. Will you state what that robbery was?—Where it occurred was in the refinery. A responsibility has also been attached to the officers in charge of the bullion and coin at the Mint Office, by the service imposed upon the Mint Office of packing the monies for consignment abroad on public services. In the original construction of the Mint buildings no provision was made for an office to tell the copper monies, or for the packing the silver and copper coin in boxes, and for the deposit of the same in a secure strong place, until the monies were required to be shipped. It was formerly done at the Bank of England, or at the storekeeper

storekeeper general's office, where the coin was deposited. The rooms now used for the purpose were taken from the copper foundery and the refinery; and since the enlargement and greater consequence attached to the latter by the introduction of the new mode of conducting the process, great inconvenience as well as risk has been created by the intermixture of two distinct sets of workmen, and the continued ingress and egress of the public for copper coin, and persons having concern with the refinery. The robbery in the refinery, which happened in 1832 would probably not have taken place, if the premises on which the refinery stands could be kept to themselves. The watchman, in the case alluded to, saw some of the precipitated silver, and entered the window and took it away; it was discovered in the morning and the man was brought to justice.

Messrs. *G. F. Mathison, H. Bingley, W. H. Barton,* and *J. W. Morrison,*

19 May 1837.

1658. What quantity had he taken?—I forget what quantity; I believe about as much as could be tied in a handkerchief.

1659. Who suffered that loss?—The melter. It has in consequence been suggested that the present packing-office should be given up to Mr. Mathison, and that a portion of the out-buildings or sheds in the melting-house yard be taken and fitted up for a copper telling-office, packing-office, and a secure strong room for depositing the boxes after they are packed; and that the entrance to the same be made in the area opposite the die forger's smith's shop, so that there will be no intermixture with the melting department.

Martis, 23o die Maii, 1837.

MEMBERS PRESENT.

Mr. T. Baring.	Sir Charles Lemon.
Mr. Ridley Colborne.	Viscount Lowther.
Sir Thomas Fremantle.	Mr. Parker.
Mr. Herries.	Mr. Pattison.
Mr. Hume.	Mr. Wall.

THE RIGHT HON. HENRY LABOUCHERE, IN THE CHAIR.

Mr. *G. F. Mathison,* called in; and further Examined.

Mr. *G. F. Mathison.*

23 May 1837.

1660. *Chairman.*] ARE you desirous of stating anything to the Committee upon the subject of the refining department, in addition to the information which has already been laid before them, in the paper you have sent to the Master of the Mint?—I am not aware of anything further than as it may come out in answer to the questions; I shall be happy to explain anything which is not thoroughly understood by the members of the Committee.

1661. Do you provide the materials which are used in the refining department at your own expense?—I do.

1662. Do you provide the machinery?—No; a part of the buildings; the platina utensils and leaden cistern belong to the Government.

1663. Are you bound to keep them in repair?—I am, according to my agreement with Lord Auckland.

1664. Have you reason to believe that other refining establishments, similar to that one, have been instituted in London lately?—I am not aware of any.

1665. Is yours, then, the only one that exists at this moment?—The only one to my knowledge. I will state the reasons why I do not think it possible any other one should: the chief employment of such a refining is in taking silver out of gold. Now silver being the standard of value on the Continent, and in France particularly, and not in England, the silver always ultimately finds its way to France; consequently it merely passes through this country; its value depends upon its ultimate value at the French Mint, where the refining exists to a considerable extent; where a great desire, of course, prevails to procure

Mr. *G. F. Mathison.*

23 May 1837.

silver for that purpose. If silver were the standard of value in this country, then the refining establishment might be perhaps a matter of private advantage, but I do not think it would be at present.

1666. What is the amount of the sum you have paid to the Government on account of the refining department?—It is stated in an account which is before the Committee.

1667. Mr. *Hume.*] Will you explain in what way the gain of 89 *l.* 6 *s.* 1 *d.* is stated to accrue to the public in refining worn-out sixpences at the Mint in 1831, it appearing by the account that 10,132 lbs. were refined?—The statement rests on a calculation made for the information of Lord Auckland, by which it appeared that the old sixpences contained gold; according to my computation, that gold amounted in value to about 8 *d.* or 9 *d.* in the pound troy. I told Lord Auckland, therefore, that if he liked to have those sixpences refined, the gold, whatever it might be, being kept by me, I would undertake to give the Government a clear profit or premium of 1 *d.* in the pound on all those sixpences refined. I informed him also, that it would not be necessary under such circumstances to melt down those sixpences; that I was prepared to take them on the average of a large quantity of other sixpences which had been melted down, and that a saving of the expense of melting would thereby accrue to Government. I also informed him that I would pay the expense of assaying the fine gold, the produce of those sixpences, which would otherwise have been borne by the Government, when those sixpences were melted. Those are the three items in this account, first, the penny a pound; secondly, the penny, one-third, which went for melting, and thirdly, the assays; then I deducted from that the value of the copper which was necessary to make up the standard of fine silver, and the clear gain resulting from the transaction to the Government became, as it is stated here, 89 *l.* 6 *s.* 1 *d.*

1668. Are the Committee to understand that from each of those 10,132 pounds, four grains of gold, or at the rate of 8 *d.* a pound was recovered by you in the refining?—Yes.

1669. Making a sum of about 337 *l.*?—I suppose that may be the amount.

1670. That sum you retained as your profit?—As my share.

1671. You deduct the charge of 26 *l.* for 626 pounds of alloy added at 10 *d.* per pound; can you state what was the produce of the alloy recovered from this 10,000 lbs. weight of sixpences?—No, I cannot state that, it was mixed up with other accounts; generally speaking, our computation is, that we recover about as much as is here stated. I should say off-hand, I ought to have recovered as much as I received, the value ought to have been about equivalent to the value of the other; but I did not keep the account so distinctly as to enable me to state the sum, it varies according to the price of copper; if copper had been bought at a particular time and sold at a particular time, when copper was lower, there might be a loss, or that might reduce the gain.

1672. As it appears you recovered nearly the same amount of copper alloy in the refining, why was not that used again, instead of charging the public with new copper?—The bargain I made with Lord Auckland was, that I should have the gold and the copper; my allowance of 1 *d.* in the pound, and saving the expense of melting, supposed that I received whatever the silver might contain, whether gold or copper; it is not usual in refining transactions to take the copper into account; that a little increases the expense of the refining transaction; if you refine pure silver containing gold, the expense of doing it is rather less than if you refine silver mixed with copper and gold.

1673. Are the Committee to understand that in addition to 337*l.*, the value of the gold, you also had the value of 26 *l.* in the copper alloy?—Yes.

1674. Is that agreeable to your engagement with Lord Auckland?—Yes; this account was arranged by an estimate beforehand, before Lord Auckland acceded to it, and all those computations were given; before he made an arrangement he knew the terms.

1675. Are the Committee to understand that at the time of the refining in 1831 and 1832 no special agreement had been made, but it was done on estimate?—It was my own estimate.

1676. Sir *Thomas Fremantle.*] What did you mean, by saying that it would not be necessary to melt the sixpences?—Because I undertook to refine them on an estimated value, without melting them.

1677. They

Mr. G. F. Mathison.

23 May 1837.

1677. They were melted eventually, were they not?—No; they were refined by me, and returned in the shape of fine silver, in the process by which I refine when I think it safe and suitable, that is, when I have sufficient guide in the computed value of the coin, I then charge the silver coin into the refining retorts without any previous melting; the previous melting is necessary to ascertain the value by assay, when that has to be done.

1678. You saved the expense of the previous melting?—Yes.

1679. Mr. *Hume.*] Did you supply all the materials for this refining process, or were they supplied you by the Mint?—I supplied all the materials, the Government supplied nothing.

1680. Did you supply the vitriol?—Yes, and the pots and everything; there was not any expense belonging to the public, except that which is here stated.

1681. Will you state how the saving of 274 *l.* which is the next item on brittle gold bars refined took place?—There was a large quantity of gold at that period which was brittle, and there was a great press for the coinage of it, and it was necessary that it should be refined before it could be made valuable, by being brought into work. Lord Auckland, therefore, wished it should be refined; at that period the agreement which existed between the Master of the Mint and me, entitled me to receive 8 $\frac{1}{3}$ *d.* per cent for refining gold, that was the allowance made upon the ancient system of refining; the negotiation between Lord Auckland and me was at the time pending for substituting the new agreement for the old one, and he therefore thought that as I had a cheaper process in operation, I ought to do it at a cheaper rate than I was bound to do by the agreement. I therefore offered to do it at the reduced rate of 5 *d.* per ounce; at that time my agreement was still binding for the other work.

1682. Will you explain how those bars became brittle?—It was traced to the defect in the gold bars originally imported; they were brittle.

1683. Does not the brittleness arise from the impure alloy mixed?—It may sometimes; but if the purity of the alloy is known, the brittleness must arise from the gold; and in the instance in question I was able to know from positive information that a great number of those original ingots were brittle.

1684. Had any of those been melted before in the Mint office?—No, they had been imported from France by the Bank, and bought by the Bank from Mr. Rothschild as imported from France without any melting in this country. The fact was, that many ingots badly refined, and in a bad state, were sent from France to this country, bought by the Bank, and afterwards sold to the Mint; the consequence of which was that this transaction became necessary; a remonstrance was made by Lord Auckland to the Bank upon the subject, and it was stipulated that no bars should be received into the Mint unless they were melted at the Mint, or certified by the Mint melter or the Bank melter as being good; and they ever since have been melted by Brown and Brind, the Bank melters.

1685. Sir *Thomas Fremantle.*] When was it ascertained that those bars were brittle?—It was not ascertained that they were brittle till they were brought into work.

1686. Mr. *Herries.*] Do you know to what that was owing?—It was owing to their being badly melted.

1687. Sir *Charles Lemon.*] As containing platina or palladium?—That was supposed from the operation. I had had 500 bars brittle, and have had to melt them over again.

1688. What is it which renders them brittle?—It is chiefly lead and antimony.

1689. Mr. *Herries.*] Does palladium have that effect?—No.

1690. Sir *Thomas Fremantle.*] The fault is in not extracting with sufficient accuracy any particles of lead which may have been retained?—Yes. One mode we have of ascertaining whether the defect is in the alloy or the gold is that of using the same kind of alloy for different kinds of gold; and if we use the same alloy for one and it is good, and for another and it becomes bad, then that shows that it is from some other cause.

1691. Mr. *Hume.*] Have you found any of the sovereigns that have been coined from the gold melted by you brittle?—Occasionally.

1692. When the metal is in that state do not the pieces very often break in the stamping, and thus increase the labour to the moneyer, and render re-melting necessary?—Yes it would, whenever it happened.

Mr. *G. F. Mathison.*

23 May 1837.

1693. That does not often happen?—It does not.

1694. In 1834 there is 2,218 lbs. of sixpences; and further, 6,744 lbs. of silver bars refined; are the Committee to understand that from that you received nearly the same proportion of four grains in the pound of gold?—Yes.

1695. That would give you a profit of 73*l.* or 74*l.* sterling?—Yes; it varied a little; there is a variation in the sixpence.

1696. In the same way the 2,851 lbs. would give that proportion?—Yes.

1697. In 1835 there is a charge for melting dollars, 7,668 lbs., for what purpose were they melted?—It was for the coinage of this country or for the West Indies.

1698. Did you from those obtain any quantity of gold?—No, not to my knowledge.

1699. What kind of dollar is it that does not produce any gold?—There are very few new dollars now that produce any gold.

1700. Mr. *Herries.*] To what is that owing?—Owing to the silver being refined in some degree, whereas formerly it used to be brought over without.

1701. There was gold in the old Spanish dollars?—Yes.

1702. The practice of refining has become very common in Europe, has it not?—No, I should not say it is very common; it is done in Paris.

1703. Are the silver German monies supposed to retain gold in consequence of that want of separation which prevails here and in France?—I cannot speak to that.

1704. *Chairman.*] Do you believe that gold monies are coined by the mint of any country now where any new process is not applied for the separation of the gold from the silver?—No, I should think not.

1705. If that process was neglected, would it not immediately happen that their coin will be re-melted?—It would tend to that consequence, no doubt.

1706. Has the establishment of the new process at the Mint had the result of completely preventing the exportation of our gold to Paris?—So far as depends upon that it has; whenever the course of exchange would not carry it to Paris. The practice has been: you take sovereigns to sell to the broker, or changeur, as he is called; if he is watched, you see him deposit your silvery sovereigns in one box and the copper in another, and he sells the silvery sovereigns at a slight premium.

1707. Do you think a great many silvery sovereigns are now in circulation?—Yes, a great number; all those marked with George and the Dragon.

1708. Why did they not find their way to Paris?—There is a loss in weight.

1709. The temptation to export them for the premium at those prices only exists when the coin just comes out of the Mint?—That is the chief temptation; but still they always find their way to the refiner when they get abroad.

1710. Sir *Charles Lemon.*] How many grains of silver are there in a silvery sovereign of gold?—There was a calculation made on 100 sovereigns, taken indiscriminately of different periods, and upon them the amount was eight dwts. and a half, but there were other sovereigns mixed up with them.

1711. What is the precise amount of silver which, by being extracted, would pay the expense in London?—That would depend entirely upon myself. I should think that six dwts. would probably do it; but it depends upon the nature of the refiner's transactions. If a refiner has silver to refine containing gold, there is a certain expense attending it, and if he adds a few sovereigns along with that silver it does not much increase his expense; whatever he gets is a benefit; whereas it might not be worth while to make a transaction for that specific object.

1712. Mr. *Herries.*] That is because you are obliged to employ a certain quantity of silver in refining gold?—Yes.

1713. If you happen to be employed in refining silver at the same time, that contributes to the operation?—Yes.

1714. Sir *Charles Lemon.*] Were those sovereigns alloyed with silver as well as any other alloy?—Yes; those most alloyed contained about half copper and half silver; I should say 10 dwts. of copper and 10 dwts. of silver.

1715. Were those pale sovereigns which were in circulation some years ago alloyed with silver?—Copper and silver mixed.

1716. *Chairman.*] With reference to the value of the coin, is silver or copper alloy

alloy the best?—It was stated by Mr. Hatchett in his paper upon the subject, that silver, copper, and gold together made the best mixture for the wear and tear of the coin, but that gold and copper only was almost as good; the difference was not considerable.

1716*. You do not then think that the coinage has suffered in point of durability materially by the exclusion of silver from the alloy employed?—I think I am borne out in that by the experiments of Mr. Hatchett; he gives a preference to the three.

1717. Viscount *Lowther*.] Is the alloy in the St. George and the Dragon only silver?—No, it is half copper and half alloy.

1718. In the others with the arms is there a quarter silver?—Some of them contain no silver at all; some do.

1719. Sir *Thomas Fremantle*.] How does the money changer distinguish the one from the other?—By the look; it is always melted down and assayed.

1720. Mr. *Wall*.] Was the difference intentional between the St. George and the Dragon and the other sovereigns?—No; but the alloy to the St. George and the Dragon is rather of ancient date; that was left in, because at the time no process existed by which so small a weight as that could be extracted.

1721. Mr. *Hume*.] Who bore the loss of weight in the wear arising from these 10,132 lbs. of sixpences sent by the Bank into the Mint?—The Bank of England.

Mr. *Morrison*.] We bought the silver, not at its nominal value, but as bullion, at *5 s.* an ounce.

1722. Mr. *Hume*, to Mr. *Mathison*.] Do you refine for the Bank and other individuals as well as for the public?—Yes, whenever they employ me.

1723. What charge do you make per pound?—My charges have varied; with regard to the mode in which the transaction is managed, sometimes I buy the silver myself; in that case I find the capital, and then I get a larger profit than if I was employed to refine that silver; but each transaction stands on its own bottom.

1724. Suppose Messrs. Sharp, or Messrs. Rothschild, or any other person, sent in bullion, at what rate is the charge?—That would depend upon the specific agreement we made at the time, but my prices have more or less been from the beginning based upon the principle of taking about 8 *d.* a pound, which is the amount allowed by the Government; I sometimes get more.

1725. What arrangement was made between you and the Government with respect to the private business you carry on in the refining department?—The principle adopted by Lord Auckland was, that I should not obtain any profit by any transaction whatever, without affording the Government a profit also.

1726. What rate of profit was allowed to the Government by that agreement?—A fixed sum of 1 *d.* on every pound of silver delivered from the refinery, and 3 *d.* a pound on every pound weight of fine gold.

1727. Sir *Thomas Fremantle*.] Was that the profit to the Government?—Yes; it was done in consideration of the works belonging to the Government.

1728. Out of the profit you make upon the transaction?—Yes.

1729. Mr. *Hume*.] What is the charge made to the public, when you refine for the public?—When I refine for coinage, when it is necessary to bring the metal up to the standard, it is 6¾*d.*, an ounce for refining gold, and 1 *d.* an ounce for silver.

1730. What are the corresponding charges to those of any private individual?—That would depend upon the agreement that was made with them; according to the last agreement made by the Bank, the difference would be, that the amount charged would be equivalent to *2 s.* 3 *d.* a pound on gold, and 8 *d.* a pound on silver; the amount charged is much higher, therefore, for refining on account of the Government for coinage than on general private transactions, which I shall be happy to explain.

1731. *Chairman*.] What is the cause of this difference?—Because Lord Auckland, when he made the agreement, foresaw that transactions might be wanted for Government, without any notice, at a particular moment, for a very small amount; the basis on which my operations rest is on large amounts, and unless it were done on large amounts, no profit whatever would arise from any refining transaction, at the prices here specified.

Mr. *G. F. Mathison.*

23 May 1837.

1732. You speak of refining generally, not of refining under the new process?—I speak of refining as practised here; the cheapness of a refining transaction according to the new process, mainly depends upon the amount; if the amount be small the cheapness is not great; if the transaction embraces a large bulk of metal, then the expense is less in proportion.

1733. Mr. *Hume.*] Take the gold refinings for the Bank in 1833, 1834 and 1835, allowance on 4,654 pounds refined, at 3 *d.* per pound allowance to the Mint, what was the charge to the Bank for that?—It would be 2 *s.* 3 *d.*

1734. Take the silver refinings for the Bank on which the allowance to the Mint, on 109,643 pounds was at one-eighth per pound, what was the charge to the Bank?—I should think it was about 8 *d.* a pound.

1735. In those silver refinings for the Bank, do you, in that case, get the profit of the gold extracted by them, or do you allow the Bank the profit of that?—When I receive an amount of gold proportionate to the 8 *d.*, the Bank would get all the other gold that might be contained in their silver.

1736. Mr. *Herries.*] You make an agreement to ensure to yourself a certain profit; all you acquire of gold beyond that is for their advantage?—Generally speaking, the gold contained in bars sent by them is considerably more than 8 *d.* in value, consequently that is their property; if I kept the four grains in the pound for myself, they would have all the other that those bars might contain.

1737. They have the profit beyond that you agree to keep?—Yes.

1738. Mr. *Hume.*] You keep only a certain proportion, four grains, and of all the surplus an account is given to the Bank?—Yes.

1739. In the operation of the new process, who supplies the platina pots?—The Government; they are a part of the establishment of the refinery; I have already stated that in my evidence; I keep them in repair.

1740. Sir *Thomas Fremantle.*] Who provides new ones?—As I am bound to keep them in repair, if a new one was wanted, I should be bound to provide it.

1741. Mr. *Hume.*] By whom are those made?—Those were made in London, by a coppersmith of the name of Kepp, who lives in Chandos-street.

1742. Does he supply them to you, or to the Government, by contract?—They belong to the Government.

1743. The Government were charged direct by him?—No; they were bought by me, originally, at my own expense; they were purchased by Lord Auckland, when the whole of the refining apparatus became the property of Government.

1744. In the process of separation that takes place, is the chloride of silver sold by you, or what use is made of it?—The mode of doing that is different from that which is supposed.

1745. Will you state what is the process by which you separate the precious metals?—The first process is to melt the bars of silver or gold in certain proportions, and pour them into water, which produces a granulated mixture, such as that I now produce; in that state it is easily acted on by acid; it is then boiled in platina pots along with sulphuric acid, in certain proportions; we then obtain a sulphate of silver, in a state of liquid solution, the gold which may have remained in the silver, remains pure at the bottom of the retort; this I now produce, is the produce of about five cwt. of sixpences; it is at the rate of about 9 *d.* a lb. in value; it is 4 oz. 16 dwts., in value about 17 *l.* The next process is to separate the silver, which is done by adding a large quantity of old copper, and mixing it all up in a leaden cistern together; the acid having a greater affinity for the copper than it has for the silver, unites with the copper, and forms a sulphate of copper; then any amount of copper alloy which may have been contained in the gold or silver acted on, unites with a large mass of copper used for the purpose, and becomes sulphate of copper; the silver is then precipitated in a powder, of which I produce a sample.

1746. Sir *Charles Lemon.*] Is the sulphate of copper separated by chrystalization?—It is, at a subsequent period; this is some of the silver after melting [*producing a bar.*] We then boil the liquid solution of sulphate of copper in cisterns, and obtain chrystals similar to this I now produce, which is sold. This which I now produce is a small platina pot, which corresponds with those we use, but which are on a very large scale. There is a considerable consumption of sulphuric acid, which we economise by condensing the fumes in a leaden chamber; we recover the fumes. There is a disengagement of sulphurous gas during

during the parting process, which sulphurous gas is conducted along with nitrous gas into a leaden chamber, and, in combination with aqueous vapour, forms sulphuric acid again.

1747. Mr. *Herries.*] Where was this process first put into practice?—In Paris.

1748. Is that many years since?—About 20 years since, I should think.

1749. Before that time the process of parting metals was not practised so much, owing perhaps to the greater expense of the operation?—It was only worth while to do it when the amount contained was considerable.

1750. In what does the economy consist; is it the employment of sulphuric acid?—Yes, that is one point; and the other is the use of platina, which enables large masses of silver to be brought into operation, glass retorts not being capable of containing so much as could otherwise be done.

1751. The difference between the new and the old system consists in the use of sulphuric instead of nitrous acid, and the introduction of platina pots instead of glass retorts?—Yes, it was discovered principally by the use of platinum. As soon as it was discovered by Dr. Wollaston here and Monsieur Bréant in Paris, it became applied to the fabrication of sulphuric acid; and that sulphuric acid being very cheap, that was applied, together with platina retorts, to the refining of silver, so that it was the improvement in the use of platina which mainly produced the improvement in the refining of silver.

1752. Mr. *T. Baring.*] Can you state the expense of the process in Paris, in comparison with the expense you charge for that operation?—No, I cannot; it has varied very considerably; the prices at Paris have never been uniform. I have here a statement of the different prices at different periods at Paris. I have an account of the 30th of August 1829; that was before my establishment.

1753. Viscount *Lowther.*] Can you contrast those with the prices in London at the same period?—Yes, my prices have never varied. In August 1829, the charge is stated to have been 9 *d.* a pound in Paris for refining silver; at a subsequent period, I was informed by the late Mr. Rothschild, that in order to give me a preference over the French refiners I must refine for 4 *d.* a pound, which showed there must have been a great reduction in their prices.

1754. In what year was that?—That was the 4th of April 1830.

1755. Mr. *Hume.*] Can you refine for that?—I declined the competition.

1756. Sir *Charles Lemon.*] When you speak of the price of 4 *d.* and 9 *d.*, do you mean reserving to the owner of the metal all the product, or reserving as part of your own profit the gold separated from the silver, and the silver from the gold?—I should say according to that price everything was returned to the owner of the bullion. I do not myself think that it was possible to carry it on at that price; I think the French, to gain business, accepted losing prices, and the principal of them failed very soon afterwards.

1757. Mr. *Herries.*] Did you accept the price offered by Mr. Rothschild?—No, I declineb it. In 1830, a great contract was made by the French government for the refining of all their coinage, the ancient coinage.

1758. *Chairman.*] You are still speaking of the new process?—Yes.

1759. Mr. *Pattison.*] Did they pay 9 *d.*?—Something very near it; the amount refined for the French government was 600,000,000 of francs, from which they obtained a premium of 3,600,000 francs.

1760. Can you state at what rate per pound that was done?—According to my calculation, as stated in my report, it comes to something very near the same as my own, 8 *d.* or 9 *d.* a pound, allowing for the larger quantity of gold those old French pieces contained.

1761. Was that contract made with a private refining establishment?—No; it was made with all the masters of the French Mints.

1762. Do you know how it was executed by them; whether they employed private refiners, or did it with their own hands?—They did it by contract, in any way they pleased; it was a competition among the 13 masters of the French Mints.

1763. Do you know whether the process itself was executed within the walls of the French Mint?—No; it never has been executed within the walls of the French Mint.

1764. It is always done in the establishment of private refiners?—Yes; the highest premium offered on this occasion was that of Mr. Collot, at Paris, amounting to six francs 50 centimes for every 1,000 francs value.

Mr. *G. F. Mathison.*

23 May 1837.

1765. Viscount *Lowther.*] Is the price higher in Paris than it was in 1830?—I do not know the exact price at the present moment, but there are three or four refiners at Paris who compete together; there has been great competition since I established the business here, and there has been a constant variation, but it will be never worth while for those who have to remit coin to Paris to have it refined here; if a dealer sends it as a remittance, and gets a premium upon it there, it is just the same as if he got a premium upon it here and had the delay.

1766. Mr. *Hume.*] Has there been any contract since 1830 with the French government that you are aware of?—I am not aware of any; that was on a very large scale indeed.

1767. Mr. *T. Baring.*] If you could perform the operation cheaper here than in Paris, it would be for the advantage of the dealer to perform it here?—Yes.

1768. Ought it not to be cheaper here, inasmuch as you have the use of the machinery of the Government, whereas the private refiners pay for their own machinery?—That will be one ground; but I do not consider that a ground for entering into a competition which I conceive to be ruinous.

1769. Is there any reason why it must necessarily be dearer here than in Paris?—There have been several applications on the part of French refiners in London to do the same work here. A French refiner wished to enter into a transaction with Mr. Horsley Palmer, then governor of the Bank, when he was recommending the formation of an establishment here, and he thought the terms mentioned by the foreign refiners were so much lower, that he wrote me a note to stop all the proceedings of Government; but on investigation, he ascertained that the prices were very nearly the same, and therefore he allowed the business to go on.

1770. When was that?—I think in 1832.

1771. Are you aware of any more economical process which is followed in Paris than in this country, putting aside the rate of wages and so on?—I cannot say; each refiner has his own practical experience, and he works in his own way in the business; it is possible that foreigners may be more experienced than I am.

1772. Mr. *Herries.*] Have you not taken pains to ascertain whether there were more economical modes of attaining the process?—I do not think there are. I have a document in my hand which will, I think, show that; it is an estimate given in to the French government, when they thought of establishing a refinery; but they found they could not make a larger profit by having a refinery for themselves than doing it by competition; their estimate is about tantamount to my charge.

1773. Mr. *Hume.*] How did you get that?—I obtained it privately. It might no doubt be obtained from the French government. It is stated that the expense of building a refinery would amount to about 3,000 *l.*, which was very nearly the amount paid me by Lord Auckland for the buildings here; then there is an account of the annual expense; interest on the prime cost of stock, five per cent., 150 *l.* (this, I should state, is for refining a certain sum of 75,000 lbs. weight in the year); consumption of acid, 650 *l.*; coke, 166 *l.* 13 *s.* 4 *d.*; coals, 437 *l.* 10 *s.*; 10 workmen and a foreman, for one year, 533 *l.* 6 *s.* 8 *d.*; repair of furnaces, 10 per cent. at least on capital sunk, 300 *l.*; house-rent, (that is one of the points that I am saved here), 83 *l.* 6 *s.* 8 *d.*; waste and deficiency on bullion account, one per mille, 273 *l.* 6 *s.* 8 *d.*; total, 2,594 *l.* 2 *s.* 4 *d.* To these expenses must be added the cost of payment of interest on advances of cash for the supply of materials, for laying in a stock of acid or coals, extraordinary losses on bullion, &c.; then follows probable expense at the end of five years; loss on platina retorts, one-eighth of 486 *l.* 2 *s.* 2 *d.*; iron work, three-fourths of 109 *l.*; lead, one half of 250 *l.*; brick-work, three-fourths of 295 *l.* 17 *s.* 6 *d.*; wood-work, seven-eighths of 72 *l.* 18 *s.* 4 *d.*; utensils, one half of 125 *l.*; total, 1,338 *l.* 18 *s.*; which, divided by five, gives 267 *l.* 15 *s.* 7 *d.* per year; that added to 2,594 *l.* 2 *s.* 4 *d.*, would give 2,861 *l.* 17 *s.* 4 *d.* as the expense of refining 75,000 lbs. weight of silver, a year's work.

1774. Mr. *Herries.*] Do you consider that a fair estimate of the quantity of work done?—I call this a high estimate.

1775. Mr. *Hume.*] Taking that establishment of 10 men and a foreman, could

Mr. G. F. Mathison.

23 May 1837.

could you with that establishment do more than that stated here?—Certainly? I should say that with that establishment I might do double, pushing to the utmost with night-work, which is what I am accustomed to have in refining, in which case there must be relays of men; I could do three times as much; there must, in that case, be double the establishment of men.

1776. Mr. *T. Baring.*] Might it not occur from the comparative charge of the refiners, that in Paris they are in constant employ, whereas you have not the same mass of employ, and therefore your charges must necessarily be higher?—No, I do not think that has been the case; when I fixed my charges with the Bank, it was in contemplation that there would be a great deal to do. I have had a great deal to do, and I have not found that I could make a great reduction.

1777. If the business were doubled, do not you think you could lower your charges?—No; my charges have been fixed on the principle of having a great deal to do.

1778. *Chairman.*] Do you think it likely that the business of the refining, as far as regards the new process for the separation of the precious metals, will increase or diminish?—I think that in this country must depend on the rate of exchange.

1779. As the new process becomes more known in other countries, is it not the case that the bullion which is imported into this country has been subjected to this new process before it came to this country?—Certainly; but at the same time new mines are constantly discovered, which contain parting bars: there have been great impediments in Mexico to the exportation of parting bars, and whenever those restrictions are removed, there may be a large exportation of them here; there is also a large mass of silver in China called sisee silver, which contains from 3 to 4 per cent. of gold; that silver has not come to this country for some years, the exchange causing silver to go to India instead of silver coming here, but it may come again; the same with the rupees, they contain a good deal of gold, and form a legitimate source of refining transactions, whenever they may be remitted in large quantities. With regard to gold, I should say the probability of its repaying refining is very small, for we have nearly worked it up.

1780. Mr. *Hume.*] Have you found the sisee silver contain more gold generally than the old pillar dollars?—Yes.

1781. Did those importations which have come to you contain nearly the same quantity?—We found them to contain from 12 to 14 grains.

1782. *Chairman.*] Do you happen to know what course has been adopted by the mint of the United States in regard to the separation of the precious metals?—No, I am unable to state that; two years ago there was an American gentleman in this country, making inquiries respecting the Mint: he was unacquainted with its refining process, and very anxious to be made acquainted with it; and he wished me to instruct him in the art. I did not think it desirable to instruct a foreigner in an art which he might use to the prejudice of this country in melting down sovereigns, and I declined; he then offered me a sum of money, and wished me to name the sum of money I would take in consideration of teaching him the secret; I declined entering into any arrangement with him, or meeting him; if I had done it, I should have done it on public grounds, without receiving any remuneration.

1783. Mr. *Pattison.*] Have you made any improvement in your mode of refining since 1829?—I think I do it much better than I did then, and cheaper decidedly; I conceive the value of so many years' experience has not been lost upon me; when I began in 1829, I began, from the necessity of the case, without any experience at all; I bought every particle of experience I possess; and with regard to the melting of silver, which is a very nice art, when the Committee see the powdery state in which it is, they will perceive that there is danger of its volatizing: from the experience I have had, I am quite sure that I do it at less loss now than I did at an earlier period.

1784. Do you think it probable that the French have got any new principle of management, as they appear to do it so much cheaper?—No; I think myself they do it for less now than they did in the period of competition, at the time when the French government contracted for so large an amount. The premium paid by the French government on the gold scarcely differs from the amount I received for refining old sixpences; and I conceive the profit this

Mr. *G. F. Mathison.*

23 May 1837.

Government derives from refining any old silver coin it may have is about the same as the French government derive from refining their coin on a very large scale indeed: but in these refining transactions each refiner makes his own bargain with each individual; and if that refiner refines on a large scale he may afford to do it cheaper for one than for another. If a man wishes to refine for Mr. Rothschild, he may make a sacrifice in the price, and when he buys and refines on his own account, he may be able to do better for himself.

1785. With reference to your account of the proposed transactions with Mr. Rothschild, as he said he could have it done much cheaper at Paris, does it not appear to you that they have probably got into some new mode of doing it cheaper there than here, and that, consequently, metal will be exported to that country to be refined?—My opinion is, that the fact of the refinement made for the French government proves that the prices there are not considerably lower than they are in this country.

1786. Mr. *Herries.*] The communication with Mr. Rothschild was before the contract with the French government?—Yes; in fact, he used me to beat down the French refiners, and one of the French refiners failed by the competition.

1787. Sir *Charles Lemon.*] Do you know what became of that bullion Mr. Rothschild offered to you?—It was a general question, whether I should do all his business or not; that was the manner in which he put it; it was not any particular bullion.

1788. Have you refined any for him since?—I do not think I have since that period; but silver being wanted in the French Mint, he found the silver; and whether it is done there or here is immaterial; if it is done an eighth per cent. cheaper there, it is for his benefit to have it done there.

1789. *Chairman.*] Is there anything in the Mint regulations which, in the event of the introduction of the new process of refining into a rival establishment of refinery to yours, would preclude the public from taking their bullion to be refined out of the Mint which they wish to bring subsequently to the Mint for coinage?—No, my contract is simply binding for the Government for that which is wanted for transactions of coinage, and my contract would not prevent the Government, if there was an improved process invented by any person, from having that for coinage done by another person.

1790. For what term does your contract exist?—It is an indefinite contract; it is terminable similar to the melting contract, at three months.

1791. Mr. *Wall.*] In point of fact, you have a monopoly of the refinement of silver in London?—Yes; but that monopoly is destroyed by the monopoly in Paris, Paris being the market for silver.

Martis, 30° *die Maii,* 1837.

MEMBERS PRESENT.

Mr. Ridley Colborne.	Sir Charles Lemon.
Sir Thomas Fremantle.	Mr. Parker.
Mr. Herries.	Mr. Wall.
Mr. Hume.	Mr. Warburton.
Right Hon. Henry Labouchere.	

RIGHT HON. HENRY LABOUCHERE, IN THE CHAIR.

Mr. *Jasper Atkinson,* called in; and Examined.

Mr. *Jasper Atkinson.*

30 May 1837.

1792. *Chairman.*] YOU are a member of the Company of Moneyers?—I am one of the senior members of the Company of Moneyers of His Majesty's Mint.

1793. How long have you been connected with the Company of Moneyers?—I came on the 1st of April 1804, and was bound an apprentice, according to the usual custom, for seven years.

1794. Your family have been for many years connected with this company?—My

—My father, who was provost of the company, had been nearly 64 years in His Majesty's Mint, and an uncle also about 60 previous.

Mr. *Jasper Atkinson.*

30 May 1837.

1795. Will you have the goodness to describe to the Committee the origin and constitution of the Company of Moneyers?—There are some very difficult points; but, if I may be allowed, I will state, from notes I have, as short an historical account as I possibly can. From the various documents I have in my possession from my ancestors, and from every other document which I have been able to examine, I am led to believe that the moneyers are the oldest officers on record in the Mint; that they were, as early as Ethelbert, first king of Kent, in the year 561. The first coin on which the name of any moneyer made its appearance, was the old coin, called the *sceatta* of Egbert, a Saxon coin. Egbert seems to have had seven moneyers. We find moneyers through the kings of the West Saxons, the monarchs of the kingdom of Mercia, the monarchs of the East Angles, and so on, to the time of William the Conqueror; they appear to have been the sole persons appointed to undertake the making of coin. They were alone responsible for its correctness, and they were alone punished when any deterioration was discovered, and that in a very peculiar manner; it was done by emasculation, as the history tells us. They are the sole persons mentioned as connected with the Mint, either in the Doomsday Book, or in any of the laws of the Anglo Saxons. It also appears that a moneyer always travelled in the suite of the early kings, and whenever the monarch arrived at any town in which there was a mint, he was called upon, if the monarch required money, to see that the coin was made from the bullion belonging to the king, to meet his current expenses; and this circumstance may account for some coins now in existence (from their marks) appearing to have been coined in very obscure places. The custom of placing the name of the monarch on the one side of the coin, and the name of the moneyer or maker, which is sometimes the case, on the other, was continued to the time of Edward the First; but this was discontinued, and the name of the Mint alone was placed instead of the moneyer's name, up to the last year of Queen Elizabeth. In the early periods of Great Britain mints and exchanges were established in various parts throughout the country; but they appear to have been under the control of that in the Tower of London, and Athelstan was the first monarch who enacted regulations for the government of the Mint, in 928. He provided that one sort of coin only should be current, and he granted to various towns by name a number of moneyers proportionate to their size and consequence, and to all boroughs of inferior rank one moneyer each. Ruding, however, says, in the last edition, vol. 1, page 26, "On the early Anglo-Saxon coins are found, besides the names of the monarchs, those of other persons, who are with great probability conjectured to have been the moneyers, because on the latter Anglo-Saxon money the names of those officers frequently occur, with the addition of their title and office. From the circumstance of their names being inscribed on the coins, it is reasonable to conclude that they were responsible for the integrity of the money, and likewise that they were the principal officers of the Mint, because inferior officers would have given security to their superiors, whose names would have appeared upon the money as a pledge to the sovereign that it was duly executed; the silence also of the Anglo-Saxon laws and the Doomsday Book, as to the other officers of the Mint, whilst they so frequently mention the moneyers, greatly corroborates the opinion that they were the only persons employed in the Anglo-Saxon and early Anglo-Norman mints, except, perhaps, occasional labourers; and it is observable that when in the reign of Henry I. the money was so much corrupted as to call for a sentence of most extreme severity on the offenders, the punishment is said to have been inflicted upon the moneyers alone, without the least notice of any other officer." This was also the case upon a similar occasion, in the reign of Henry II.; he says, "I am unable to ascertain at what period it became necessary to place some permanent superintending authority in the Mint to prevent the ill practice of the moneyers, but it is probable that such an officer was appointed between the 26th year of Henry II., when the moneyers alone were punished for the adulteration of money; and the third year of Richard I., when Henry de Cornhill accounted for the profits of the cambium of all England, Winchester excepted. The Mint, however, did not attain its full constitution of superior officers until the 18th of Edward II., when, as far as I have been able to discover, the comptroller first appeared and delivered in his account distinct from those of the warden and master, as theirs likewise were from each other; thus they operated as mutual

Mr. *Jasper Atkinson.*

30 May 1837.

checks, and no fraud could be practised without the criminal concurrence of all the three persons." It appears also from Mr. Maddock's History of the Exchequer, that the moneyers enjoyed privileges from a very early date. In the 33d of Henry II. they were expressly exempted from a tax levied in the city of York, called the Donum, and in the 18th year of Henry III. the lord mayor of London was commanded not to exact from them tallages or other customs, contrary to their accustomed privileges. These special privileges were shortly afterwards extended to all the principal officers of the Mint, as appears in the 41st of Henry III., from the bailiff, &c. of Canterbury having received judgment in the Exchequer in this year, for having distrained upon the other officers of the Mint; those privileges were again granted and confirmed by Edward I., in the second year of his reign, freeing the various officers of the Mint from all tallages, and not to be put into any assizes, juries or recognizances. The statements I have made, I have taken from Ruding, page 26, and Maddock's History of the Antiquities of the Exchequer, pages 198, 389, 406, 410 and 513. The short account I have laid before the Committee proves, beyond a doubt, the antiquity of the moneyers, but when, or by what authority they became associated or incorporated, I have no possible means of obtaining information; but as they have been recognised as the Company of Moneyers for centuries past, even from time immemorial, we infer that the concurrence of one of the earliest kings must have been given, and although we are not able to show any charter of association, from our antiquity and recognition, the law places us in the same situation as the City of London by prescription. I will hand to the Committee a very curious seal, which belongs to the corporation, which is one of the proofs of our antiquity; it appears to have been in the reign of one of the Edwards (*producing the same*); the small seal we use for common purposes, and the large one for any leases or matters of that kind.

1796. What is the present constitution of the Company of Moneyers?—A provost, and senior and junior members.

1797. What is the number of its members at present?—At present we are seven.

1798. Has this number ever varied?—In the year 1668 they were 15; in the year 1694 they were 13; in the year 1726 they were eight.

1799. Does that number include apprentices?—No, only the fellows of the company.

1800. What is the number of apprentices?—We have no apprentices at the present moment, In 1819 we were eight moneyers; in 1825 we were six, and in 1836, and up to the present moment, there have been seven.

1801. Can you state the number of apprentices at the periods to which you have referred?—One in 1819, and one in 1825.

1802. The Committee do not wish for the detail; how are vacancies supplied in the Company of Moneyers?—They have been elected from time immemorial by the Company of Moneyers; but from the period of the year 1713 the election was not rendered good till they had the sanction of the master of the Mint in writing.

1803. Does the person elected become an apprentice, or at once a member?—Necessarily an apprentice for seven years, that he may be initiated to learn the art of making money, and to make himself efficient to take the responsibility when he becomes a moneyer.

1804. Practically speaking, are the vacancies filled up by the Company of Moneyers or the master of the Mint?—By the Company of Moneyers, until of late one of our masters, Mr. Tierney, appointed a young man, the 1st of December 1827.

1805. In point of fact, the master of the Mint would have a power of preventing your filling up a vacancy without his consent?—He would have a veto, of course; that took place from the year 1713.

1806. Mr. *Hume.*] What business had the individual been whose son was nominated in 1827?—His father was town-clerk of Nottingham, Mr. Enfield; he was a highly respectable man; it is the only instance of a young man appointed by the master that I am aware of, on history.

1807. Sir *Thomas Fremantle.*] Did the Company of Moneyers remonstrate?—Not at all; we did that to Mr. Tierney which we had done to our previous masters

masters subsequently to 1713, stating that we should be happy to elect a young man on his nomination.

1808. Did the proposition to appoint Mr. Enfield come from Mr. Tierney, or from the Company of Moneyers?—This I recollect perfectly well; a conversation took place; we elected Mr. Nicoll at our meeting held according to custom; he was a cousin of one of the moneyers, and a nephew of an old moneyer, now dead, and on stating that we had done that according to the usual custom, Mr. Tierney, I believe, said he should like to appoint a young man; my father, who had the interview with Mr. Tierney, said he had no doubt the moneyers would attend to his wishes; the message was delivered to the company at a meeting, and, without any hesitation, they said they would consent.

1809. Did they withdraw the appointment of Mr. Nicoll?—No, they were both appointed, and eventually Mr. Enfield was nominated by Mr. Tierney, and was bound apprentice according to the usual custom.

1810. Sir *Charles Lemon.*] By what authority was the alteration made in the year 1713, requiring the sanction of the master to the appointment?—I have an extract from the Company of Moneyers' books, bearing date the 4th of November 1713: "Some conversation having taken place between Sir Isaac Newton (then master of the Mint) and the Company of Moneyers, respecting their taking apprentices according to their usual and ancient custom, the following question was put at a meeting held in their hall on the 4th November 1713: 'Whether the master and worker be asked for permitting the Provost and Company of Moneyers to take apprentices? Resolved, *nem. con.* That the master and worker never had any authority as to the permitting the provost and fellows, or any of them, to take apprentices; and that it is not reasonable to ask the master his consent in that affair, it being contrary to the ancient custom of the said Company of Moneyers, and may be of ill consequence for the future.'" The following extract from an answer given by the Lords of the Treasury to a petition of the Company of Moneyers, again to receive the sum of 400 *l.* per annum formerly allowed them, will show the period when the master had a voice in the nomination of apprentices, dated "Whitehall Chambers, 16 July 1729, viz.: The Company of Moneyers having petitioned the Lords Commissioners of His Majesty's Treasury to have the sum of 400 *l.* per annum formerly allowed them, to be regranted, and which they received from the year 1706 to Michaelmas 1714; it was the opinion of the Lords of the Treasury that each moneyer should receive, in lieu of the said 400 *l.*, the sum of 25 *l.* per annum, whenever the whole coinage of gold and silver within that year shall not amount to 500,000 *l.*, and that the moneyers may be continued under a restriction recently made of taking no apprentice without the licence of the master and worker. Whitehall Chambers, 16 July 1729." Again, this is also extracted from a letter from the Lords of the Treasury, dated 2d March 1742: "Whereupon the Lords of the Treasury were pleased to sanction an additional increase of 15 *l.* per annum on the 29th March 1742, making the salary 40 *l.*, under the same restrictions as the original grant of 25 *l.* per annum;" and that is the salary we now receive when we do not coin 500,000 *l.*; that appears to be the origin of the change, when the master first had a voice in the nomination of apprentices.

1811. *Chairman.*] How long is it after an apprentice is appointed before he becomes a member of the corporation?—Seven years, sometimes more; there have been instances of their serving eight years.

1812. What premium does he pay on being bound?—He pays 1,000 *l.*

1813. Does he receive any profits of the corporation till he becomes a member?—Not one farthing; he receives per diem for the first three years, I think, 10 *d.* every time he attends, and 14 *d.* after three years, till the expiration of his apprenticeship; an old custom never abolished.

1814. The apprentices are actually employed in conducting the business?—They are very actively employed in all the departments; they go from one to the other, till they make themselves perfectly efficient in all the departments.

1815. There appears to be no rule in the appointment of apprentices, in reference to the number of the corporation?—I know of none.

1816. Mr. *Hume.*] How is the premium appropriated?—It goes to our general funds.

1817. How long has 1,000 *l.* been the premium?—I cannot answer that question.

Mr. *Jasper Atkinson.*

30 May 1837.

1818. Sir *Thomas Fremantle.*] When was the last apprentice bound?—The 1st of December 1827.

1819. *Chairman.*] Does the corporation possess landed estates or any other property?—Yes, we have an estate, and we have some private funds and our capital to carry on the business.

1820. Do you, as a corporation, conduct any other business except the business of fabricating the monies?—As a corporation, none.

1821. Would it be contrary to the rules of the corporation to enter into any other business or speculation of any kind?—It is contrary to the regulations, but they are allowed under certain restrictions; individuals of the company have been in other businesses, but in case of failure or any accident of that kind, they are immediately dismissed the company.

1822. The corporation itself, as a corporation, never engages in any business except the business connected with the Mint?—Never.

1823. Is the landed estate you have alluded to of any importance?—It is worth about 300 *l.* a year now.

1824. Mr. *Hume.*] How has the capital been acquired?—When the apprentice has served his seven years, and his conduct has been such that he is admitted a member of the company, (because it depends upon his good conduct after all), he puts 500 *l.* towards the general stock, over and above the premium he originally paid.

1825. Is there no other fund by which the capital has been formed?—No; that is what we call our working capital.

1826. What is the aggregate amount?—Taking seven of them, it is now 3,500 *l.*; but if we were not so regularly paid as we are now, and instances have been known that 20,000 *l.* have been owing to the moneyers, the company are called upon to pay their portion to meet the expenses.

1827. How can 20,000 *l.* at any time be owing to them?—Because the moneyers were not paid so regularly in former times by the Exchequer as they are now.

1828. *Chairman.*] From what period have the payments been regularly made?—As long as I have been in the Mint certainly.

1829. Sir *Thomas Fremantle.*] You state that the working capital now is 3,500*l.*?—Yes; our accounts are paid quarterly.

1830. What becomes of the 1,000 *l.*?—We appropriate that either to the contingent fund, or divide it as we think proper.

1831. It does not go to the capital?—No.

1832. Mr. *Hume.*] What becomes of the rent of the landed estate?—It goes for contingencies or for whatever object we please, or we divide it.

1833. Sir *Thomas Fremantle.*] The 500 *l.* contributed by each individual when he becomes a member of the company belongs to him, and is taken out at his decease?—Yes.

1834. Mr. *Hume.*] From what period has the estate to which you refer accumulated?—I can recollect its being let to a tenant at will at 20 *l.* a year.

1835. Does each person appointed become entitled to his share of that 300 *l.* rent, though only recently elected?—Yes.

1836. Is there any other capital than that to which you allude which is the working capital, and the landed estate?—Our working capital is 3,500 *l.*, or more if necessary, which the members are required to supply, and that has been the case; there is what we call a contingent fund, money in the funds, a very trifling sum to meet large contingencies, such as a large boiler, now repairing, which will cost 70 *l.* or 80 *l.*

1837. Sir *Thomas Fremantle.*] There is no large accumulated capital?—No.

1838. *Chairman.*] Have you houses?—There are two houses belonging to the department, one belonging to the provost, and the other to the senior moneyer, who used to be called the deputy-provost.

1839. Do those houses belong to the moneyers or the Government?—They are His Majesty's houses, but appropriated to the department.

1840. Mr. *Hume.*] Have you any stables and coach-houses, and other conveniences attached to those houses?—There are stables in the Mint; but built by individuals at their private expense; my father built that which may be called a coach-house, but there is no stabling.

1841. *Chairman.*] What are the present rates at which you make money, according

Mr. *Jasper Atkinson.*

30 May 1837.

according to your contract with the master of the Mint?—This before me is a copy of the agreement.

1842. Have the rates of coinage, which are described in the papers which are before the Committee as being those according to which you now make the monies for the public, the same which have existed for many years past?—They are the same that have existed from the year 1770.

1843. Has there been no alteration in the contract since that?—No alteration in the contract; but there has been a reduction of two per cent. upon the amount on account of an engine introduced, called the drawbench.

1844. What was the date of that reduction?—The 5th of May 1820.

1845. Have any other alterations been made in the contract?—None as to prices.

1846. Have any alterations been made in the conditions of the contract, independent of the prices?—Respecting the machinery, reduction of remedy, and numerical change in the weight of gold and silver monies.

1847. What alterations have been made in that respect?—Great burthens have been placed on the Company of Moneyers.

1848. Will you state to the Committee what is the mode of conducting the business, and the duty of the Company of Moneyers?—The Company of Moneyers are, in the first place, to hold themselves in readiness with any apprentices, if there should be any, to execute the coinages required, and to give their attendance daily, from an early hour in the morning till late in the evening, Sundays only excepted, so that they may execute the coinages as rapidly as possible; the moneyers undertake the coinages at fixed prices, as mentioned in the schedule; it is their duty to bear and sustain all manner of waste and charges in the making of the various monies, they are to find all utensils and implements used in the coining, such as tallow and oil, and coal necessary for the steam-engines, trays and bowls, and scales and weights, and shears and every other implement; and during the time the Mint is at work, they shall keep in repair all the annealing and the other furnaces; they are also to keep in repair the machinery and apparatus erected in the mill-rooms, cutting-out-rooms and press-room, and other workshops, and about the steam-engines in their department, all which are particularly mentioned in a schedule which I have in my hand, which is an inventory of the machinery the moneyers are to keep in repair. After every coinage the moneyers are to leave the said furnaces, the machinery and other apparatus in good repair and working order, reasonable use and wear thereof only excepted. The master of the Mint for the time being provides, at the public expense, all buildings and repairs of the different workshops and offices, and other buildings now used, or which shall or may be hereafter used by the provost and Company of Moneyers for the coinages in His Majesty's Mint. "And whereas the Right Honourable William Wellesley Pole, having in the year 1816, under the authority of the Lords Commissioners of His Majesty's Treasury, employed, at stipulated wages, certain skilful artificers, for the purpose of fabricating such tools and implements as are required for the working of the machinery, and for repairing the same, and other services connected therewith, now it was agreed between the Right Honourable William Wellesley Pole, and the provost and Company of Moneyers, that during such time as the said artificers are required for the coinages, they are to be paid by the Company of Moneyers, and when not so employed, at the public expense;" it was also agreed, between the Right Honourable William Wellesley Pole and the Company of Moneyers, that the superintendent of machinery for the time being shall certify and state to the Board of Mint officers, during what period the said artificers have been employed in the coinage, so that the due proportion of wages to be paid by the Company of Moneyers and the public may be arranged and settled without dispute or difficulty. Both parties did agree that the proportions shall be paid as before-mentioned, in such proportions as the superintendent of the machinery for the time being should appoint. The moneyers' duty is also to make up their accounts at the expiration of every year, on the 31st of December, or at any time during the year, having one month's notice duly given in writing by the master or the deputy-master, when they will pay or deliver such balance of gold and silver, or both, as they may be charged with on the books of the Mint, upon payment of all arrears due to them on the coinages, according to the forms and prices aforesaid. And further, the provost and Company of Moneyers shall and will save harmless and indemnify the master for the time being and the public from all loss, damage and expense in and about the coinages, except in respect of

Mr. *Jasper Atkinson.*

30 May 1837.

of such repairs, matters and things as are to be provided at the public expense as aforesaid. It is also declared, that it shall be lawful for either of the parties to determine this agreement, after three months' notice given in writing by either party to the other for that purpose; and lastly, the provost and Company of Moneyers enter into a bond of 5,000 *l.* for the due and punctual performance of all their duties, which is the first time the moneyers ever did that. Those I believe to be the duties of the Company.

1849. It would then be competent in the master of the Mint to contract with other parties besides the Company of Moneyers for the fabrication of coin, if he should so think fit?—I should think not; I think that the company have a prescriptive right for coining all His Majesty's monies.

1850. On what do you ground your opinion?—Upon ancient custom; the monies have from the earliest period been coined under the superintendence of the moneyers of His Majesty's Mint.

1851. Is not the opinion you have expressed inconsistent with the expression in the contract, that it is terminable at three months' notice by either party?—That refers to the contract as to matter of price.

1852. You do not hold that the master of the Mint could oblige the Company of Moneyers to coin at any price he might think fit, unless the price appeared to be a fair one?—Certainly not; I should suppose no master of the Mint would require gentlemen who have an immense responsibility, to take upon them that responsibility for nothing; I could not presume a master of the Mint would do that.

1853. Supposing the master of the Mint and the Company of Moneyers to disagree as to what was a fair price, and that the Company of Moneyers refuse to work at the price he considered fair for the work; do you think the master of the Mint, under those circumstances, would be authorized in applying to other parties to execute this work for him?—That is a question I cannot answer; it is a thing without precedent, at all events.

1854. The question does not refer to the equitable, but to the legal right; are the Committee to understand that the Company of Moneyers hold that they have a legal right to be employed to coin the money?—They have a prescriptive right; the monies have been coined by them from time immemorial; there never has been a difference, therefore that is a question which has never arisen.

1855. Sir *Thomas Fremantle.*] Would you be inclined to hold that so long as the moneyers are willing to fabricate the coin for a reasonable remuneration, the master of the Mint is bound to employ them?—I should think so.

1856. *Chairman.*] Did you ever hear of any lawyer giving his opinion that the Company of Moneyers had a vested right in the contract to make the monies?—I do not know that such an opinion was ever taken.

1857. Mr. *Herries.*] Is there anything in your charter that shows that?—I have stated that we have no charter any more than the city of London; we appear to have had a prescriptive right; there has been no question mooted as to its being given to other persons.

1858. *Chairman.*] Supposing it shall be thought advisable for the establishment of the Mint to carry on the coinage themselves on the public account, to enter into a contract with no one; do you think a change of that nature would be inconsistent with the vested rights of the Company of Moneyers?—I conceive so; I conceive we have gone on from generation to generation with the privilege of coinage at certain rates; it has never been changed so far back as I can go.

1859. Are the Committee to understand that you hold that you have a vested right, not only in the contract, but in the rights of the contract?—Not in the rights; for we agree that there may be a cessation of the contract as to the terms, giving three months' notice, but that is only as to the rights.

1860. Suppose the Company of Moneyers to differ as to the terms of the contract, in what way would you provide for that difficulty?—We should endeavour to prove by accounts that we could not undertake it at a lower rate, and leave it to the master to consider what line of conduct he would adopt.

1861. Supposing those differences to continue, and the master to insist on the coinage being performed at rates you considered too low, and you could not, in justice to yourselves, carry it on, in what way do you solve the difficulty consistently with the vested right which you conceive to be in the Company of Moneyers?—

Moneyers?—I cannot answer that question, because it is a thing which never has happened; the coinages have been undertaken, and investigations that have taken place have satisfied the various masters that the company had not received too much, and it has gone on.

1862. Are you sure you are not combining an equitable claim with a claim founded on vested right?—I believe that from our situation, from all the circumstances, we have a prescriptive right, which is a legal right, to the fabricating the coin of the realm.

1863. Sir *Thomas Fremantle.*] Supposing you had a legal right, a court of justice would give you an adequate compensation for the performance of that duty?—There is no doubt of that, I conceive.

1864. Mr. *Herries.*] You conceive that the master of the Mint could not enter into a contract with any other persons; that he would be bound to employ you, and nobody else, in manufacturing the money of the country?—I conceive so.

1865. That you have an exclusive right to be employed, but that the subject of the remuneration generally has been matter of arrangement before the contract?—Yes.

1866. Supposing you could not agree upon the contract, you think he would not have a right to employ others, but must still use your services?—That is my view.

1867. In that case the question of remuneration might be a matter of litigation, or of subsequent adjustment?—That I conceive to be the case.

1868. *Chairman.*] Has this opinion ever been expressed by any legal authority?—Never; there never was counsel's opinion taken upon the subject, because there has been no difficulty; Mr. Bolton undertook some copper coin, the Mint not being sufficiently efficient, and he afterwards wanted to undertake the silver, but it was not given to him, because it was thought that the moneyers had a legal claim.

1869. At what period was that?—That was after 1797.

1870. Sir *Charles Lemon.*] In case of any disagreement on the terms of your contract, should you feel yourselves bound to work under the orders of the master of the Mint?—If any panic, or any circumstances similar to those in 1816 or 1825 should take place, I should feel myself bound to attend to his directions, and leave that matter to subsequent arrangement.

1871. Supposing you did not come to terms, do you conceive that the master of the Mint would have authority to tell you you must go at once to work, leaving you afterwards to adjust the terms?—We must hold ourselves ready to go to work at any moment the master would say you must go to work, and we should, protesting against the order, or some such form, perhaps, but leaving the arrangement to future decision.

1872. Then the Mint cannot be stopped by any difference of that kind?—I conceive not, but it is difficult to answer that, for the difference has never occurred up to the 19th century.

1873. Mr. *Herries.*] According to your construction, the master of the Mint has a right to command your services to strike money, and not a right to employ another person?—I conceive so; we are bound to attend to his directions under pain of being dismissed; as to the terms, it is lawful for either party to give three months' notice for a change.

1874. Sir *Charles Lemon.*] In the last resort, you would have recourse to a court of justice for an equitable remuneration?—That is a question I cannot answer; if the case unfortunately occurred, I must consult some legal adviser upon the subject.

1875. Sir *Thomas Fremantle.*] Do you think the case would be equally strong if the master of the Mint should perform that duty by contract, without contracting with others as moneyers?—The master of the Mint has never performed that duty himself; the operative part has always been done by the moneyers.

1876. *Chairman.*] Will you have the goodness to state more fully what took place when Messrs. Boulton & Watt were disposed to undertake a contract for

Mr. *Jasper Atkinson.*

30 May 1837.

the coining of silver?—I am not prepared to answer that question at the moment.

1877. Do you mean to state to the Committee that either the Treasury or the Mint upon that occasion recognized the claim of the moneyers to be exclusively employed in striking the coin of the realm?—I am not prepared to answer that question at the present moment; our books give the whole of the particulars.

1878. Mr. *Herries*, to Mr. *Morrison.*] Do you know anything upon that subject?—The coinage which is alluded to was a coinage of Bank tokens, no silver coinage of the realm then took place; about that time it was stated that Mr. Boulton was a competitor with the Mint for the undertaking of the coinage, and that it would depend upon the terms or the facilities whether they would employ Mr. Boulton or the Mint; then I understood afterwards, that it was considered at the Council Office that it was right the Mint should be employed, and not Mr. Boulton.

1879. *Chairman*, to Mr. *Atkinson.*] You consider the Company of Moneyers in the light of Government officers rather than of contractors?—It is a curious situation; it is a sort of *imperium in imperio.*

1880. Mr. *Hume.*] If the Treasury were disposed to contract with Messrs. Boulton, or any other persons, for coining the gold or silver coins of the realm, would you consider yourselves aggrieved and protest against it?—Most assuredly we would protest against it.

1881. *Chairman.*] Can you state to the Committee what have been the gross sums of money you have received, the expenses you have incurred, and the profits you have realized during any given past number of years?—I can give the Committee a statement. In the first place, I should like to give a comparative statement between a given period from the year 1770 to 1781, which was given to a Mr. Garbett, a Birmingham manufacturer, who was ordered by Lord Shelburne, the first Lord of the Treasury in 1783, to investigate the expenses of the Mint; and I can also give the Committee a similar statement from the year 1827 up to the year 1836, showing the amounts coined, the sums received for such coinage, the expenses and the profits; and I will also give to the Committee a statement of the amount coined from the year 1816 to the 31st of December 1836, 1816 being the commencement of the silver coinage. It will be observed that the difference of the amount received in the first periods, namely, between 1770 and 1781, and the sums between 1827 and 1836, is about 1,000*l.*, the one being 104,423*l.* 5*s.* 3*d.*, and the other 103,079*l.* 15*s.* 10¼*d.*, while the expenses are, in the first period, 25,786*l.* 16*s.* 7*d.*, and in the latter period, 53,914*l.* 19*s.* 10*d.*

[*The same were delivered in, and read, as follows.*]

No. 1.—Receipt and Expenses of the Company of Moneyers for 12 Years, from 1770 to 1781 inclusive. Copied from Mr. *Garbett*'s Report, 5th April 1837.

YEAR.	Amount of Gold Coined.	Silver Coined.	Receipts.	Expenses.	Profits.
	£. s.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
1770	623,778 15	68 4 –	3,192 1 3½	826 18 9½	2,365 2 6
1771	637,796 5	Nil.	3,938 4 9	1,102 19 2	2,835 5 7
1772	843,853 10	334 16 –	4,601 4 4½	1,310 2 11	3,291 1 5½
1773	1,317,645 –	Nil.	6,567 18 4	1,556 18 8½	5,010 19 7½
1774	4,658,623 11	Nil.	18,404 6 4	4,229 14 7	14,174 11 9
1775	4,901,218 17	Nil.	20,161 19 10	4,841 14 7	15,320 5 3
1776	5,006,350 2	315 8 6	19,995 14 5	4,820 15 3	15,174 19 2
1777	3,680,995 10	Nil.	14,506 2 4	3,558 – 11	10,948 1 5
1778	350,437 10	Nil.	2,016 17 4	618 4 9	1,398 12 7
1779	1,696,117 10	254 4 –	6,631 5 9	1,474 14 11½	5,156 10 9½
1780	84,105 –	Nil.	491 12 4	285 17 9½	205 14 6½
1781	876,794 12	62 – –	3,915 18 2	1,160 14 2	2,755 4 –
£.	24,677,716 2	1,034 12 6	104,423 5 3	25,786 16 7	78,636 8 8

131

Mr. *Jasper Atkinson*

30 May 1837.

No. 2.—Receipts and Expenses of the Company of Moneyers for 10 Years, from 1827 to 1836 inclusive. Copied from their Books, 5th April 1837.

YEAR	Amount of Gold Coined.	Silver Coined.	Receipts.	Expenses.	Profits.
	£. s.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
1827	2,512,636 17	33,019 16 –	13,360 5 7¼	6,352 13 4½	7,007 12 2¾
1828	1,008,559 2	16,288 3 1	5,365 – 9	3,368 8 11	1,996 11 10
1829	2,446,754 12	108,259 16 –	11,228 18 7	5,199 17 4½	6,029 1 2½
1830	2,387,881 2	151 16 –	11,578 11 9	*7,668 13 8	*3,909 18 1
1831	598,547 5	33,696 5 8	5,120 6 10¾	3,792 14 5½	1,327 12 5¼
1832	3,737,065 10	145 4 –	14,281 6 10½	5,877 6 2½	8,404 – 8
1833	1,225,269 13	145 4 –	5,349 1 5¾	3,008 1 4	2,341 – 1¾
1834	66,949 12	432,775 4 –	11,395 15 8	6,361 – 1½	5,034 15 6½
1835	1,109,718 8	156,763 4 –	8,996 8 –	4,673 10 –	4,322 18 –
1836	1,787,762 5	497,719 4 –	16,404 – 3	7,612 14 5	8,791 5 10
£.	16,881,144 6	1,278,963 17 9	103,079 15 10¼	53,914 19 10½	49,964 16 –¾

* This year the Company were robbed by one of their working men to the amount of 2,804 sovereigns.

No. 3.—Amount of Gold, Silver and Copper Coined, from 1816 to 31 December 1836, with Receipts, Expenses and Profits.

	Amount of Gold, Silver and Copper Coined.	Amount of Receipts for Coining.	Expenses of Coining.	Profits.
	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Gold - - -	55,137,678 1 2			
Silver - - -	12,075,443 – 10½			
Copper: *Tons. Cwts. Qrs. Lbs.* 1,138 8 3 17 at 224 *l.* per ton -	253,891 14 –			
£.	67,467,012 16 –½	420,871 11 10	214,044 3 3	206,827 8 7
		About ⅝ p' cent. on the whole value coined.		About ¼ and $\frac{1}{16}$ per cent., or 6*s.* 1½*d* per cent. on the whole value coined.

Twenty-one years' profits, 206,827 *l.* 8 *s.* 7 *d.* = 9,849 *l.* per annum.

1882. In the paper you have delivered in, which is headed "An Account of Receipts and Expenses of the Company of Moneyers for Ten Years, from 1827 to 1836 inclusive," are the allowances made to the members who executed the business included under the head of profits, or under the head of expenses?—Under the head of expenses, every expense is included.

1883. The profit is the net profit?—It is.

1884. Should you object to submit your accounts to the inspection of this Committee?—I can have no objection to the Committee seeing the accounts; they are very simple; but that is the substance of the accounts. I think if the Members of the Committee will investigate our books, and see our great responsibility and losses, and compare our prices with those of common manufacturers, they will be perfectly satisfied, taking the amount of 67,000,000 *l.* of manufacture, that we have not made more than the common profits of manufacture.

1885. In the report of Mr. Garbett to the Treasury, to which you have alluded, the propriety of uniting the melting and moneying contracts into one is suggested; do you apprehend there would be any difficulty in the union of those contracts?—I am perfectly aware that Mr. Garbett suggested that, but I can see

Mr. *Jasper Atkinson.*

30 May 1837.

no facility as to the operations; the same check and the same division that now exist, must take place, whether the moneyers have the superintendence of it or not.

1886. Would not it be more economical to the public to deal with one contractor, instead of two?—I do not know what the profits of the melter are, but if the Company of Moneyers were to have the management of it, we must appoint a moneyer, who must understand his business, to take the superintendence; and the same Government officers who are now in existence, must be kept there; therefore I cannot conceive there could be any diminution of expense; and if we have to undertake other business, we of course ought to receive a proportionate profit upon that. We must have more moneyers; we are very short now.

1887. Would the business or not be in any degree facilitated by the moneying and melting contracts being conducted by the same party?—I conceive not; no two departments can work better together than the moneyers and the melters; he executes his melting, and we immediately begin our part of the process.

1888. Have you had occasion to consider the system of foreign mints?—I have visited a great many.

1889. Have you ever compared the expense at which the coinage of England is conducted with that at which the coinage of any other country is conducted?—Yes; I have had very good means of comparing the difference of price between those of France and England.

1890. What do you consider to be the comparative expense which the French government is at, and that to which the English Government is put by the coinage?—There is a considerable difference; in France it is about a quarter per cent. for the coinage of gold, and in England it is a fraction less than a half; on silver in France it is one per cent., and in England it is less than $2\frac{1}{8}$th per cent.

1891. To what do you attribute the great difference of price for coinage between the English and the French Mints?—In the first place, the contract between the Company of Moneyers and the master, and the contract of the director of the French Mint is different; the bullion which is sent into the British Mint is assayed, classed and melted, and is delivered over to the moneyers at standard weight; we return weight for weight, either in coin or scissel, and we have no opportunity of doing that which the director of the French Mint does, by adding in the melting (he having the melting and manufacturing part together) a little more alloy than would make the bare standard, and which will make up some of the loss in evaporation and melting, in volatization, or in the operation of cleansing by acid in the coining department.

1892. Do you mean to say that it is the practice of the English Mint to work closer to the standard than the French Mint, and that that difference gives a profit to the parties who contract for the French coinage?—That is one. Another advantage of the director of the French Mint is, that he can purchase silver bullion whenever he thinks fit, and of course can set his mint to work whenever he fancies that money may be required by the public; he has also very great advantage in what is called the return of the assay; the difference between the import return and the purchase return; and I think I can give no better idea of that than by stating that the Bank of England within the last 15 years has realized a profit of upwards of 50,000 *l.* from the trifling circumstance of the fractional difference between the purchase assay and the assay of the importer.

1893. On what grounds do you make that statement?—I make it from the statement of the master of the Mint's assay-master; as to the silver I cannot say, but I have no doubt that it will appear from the return given in by Mr. Morrison, what the profit has been from the year 1816 to the present period, having coined so many millions. Then the establishment of the French Mint is comparatively small; the machinery being on the same trifling scale as that of the old Mint in the Tower, it is necessarily much less expensive to put it into operation and to keep it in repair.

1894. Do you know how many mints there are in France?—I think there are eight now; there were 13, but they are concentrated. The price of labour is also considerably higher in England; the highest wages they give in Paris to their best mechanic is about 5 francs per diem; we give 10 *s.* 6 *d.* a day; the labourers that we give 4 *s.* a day to in England, they would give about 3 francs to; and our common labourers, that we give 3 *s.* 6 *d.* and 3 *s.* to, depending upon the time they have been in, they would give 2 francs to

2 ½ francs

Mr. *Jasper Atkinson.*

30 May 1837.

2½ francs per day; they have no steam-engines, whereas we have no less than three, one of 30-horse power, one of 16-horse power, and one of 10-horse power to set in motion at a very considerable expense, when we are doing that which is hardly compensating. Their remedy as to weight is more extended than ours; their gold is 11½ grains each way, plus and minus, in the pound; the silver is 17 grains, plus and minus, as they call it.

1895. Is there any difference in the remedies adopted between the French and English Mint in point of fineness?—Yes, there is a difference in fineness as well as in weight; there is a greater range in the French Mint; ours are 12 grains in the pound weight in gold, and 20 grains in silver, divided amongst the number of pieces; in gold it amounts to nearly the 500th part of the weight of the piece, and in silver about the 259th or 260th part of its own weight.

1896. Mr. *Hume.*] That is as to gold in France, the remedy being 11½ grains, plus and minus, as to weight, and in England 12 grains?—Yes.

1897. *Chairman.*] Do you conceive it has been the practice of the French Mint to work more to the worse side of the remedy, both in fineness and weight, than the English Mint has been in the habit of doing?—I have no doubt that has been the case.

1898. From what have you formed that opinion?—From various experiments in melting the silver coin, they have been invariably found worse than the standard, though within the remedy; and I have conversed on the subject with Monsieur Gingembre, the director of the Mint at Paris, and also with the director of the Mint at Genoa.

1899. Do you know that any practical inconvenience has been found to result in France from the making the coin so near the worse side, but within the remedy?—I know of no practical inconvenience; persons have been satisfied, because the money issued from the Mint has been within the remedy.

1900. Must not the consequence be that the coin very soon becomes below the remedy, and that a necessity of re-coinage must arise more speedily than it otherwise would?—The diminution in weight must depend entirely on circumstances, on the use of the money, and how long it has been in circulation.

1901. *Cæteris paribus*, would not a necessity for re-coinage arise sooner with respect to it, if it was nearer the extent of the remedy?—Certainly.

1902. Speaking not of fineness, but of weight, if the coin is near the worse side of the standard, would it not appear that it would sooner be deteriorated, so as to be below the standard in point of weight?—I do not think I can give any answer as to standard of fineness; the pieces are issued according to their standard, but they are very irregular indeed in their weight. The last time I was in the French Mint, I saw them manufacturing the five-franc pieces by the rollers they have; their machinery is so bad, so defective, theyrun them through roughly, so as to get them on the heavy side, and then scrape them down with an instrument for that purpose.

1903. Mr. *Wall.*] Does not it make some difference, there being two standards in that country?—Silver is the standard of value there; gold is taken at an agio there, according to the price, whatever it may be.

1904. Mr. *Hume.*] Do they scrape individual coins?—The blanks are put into an instrument with a top or hopper; an instrument comes and lays them under an another instrument, which abrades the top, and scrapes a large mass off; a sort of plane.

1905. Sir *Charles Lemon.*] Is not that attended with great loss?—I never asked that question; there must be a great loss of time at all events.

1906. Mr. *Hume.*] How do you reduce the weight when it is over weight?—We are supposed to be so exact, that we have abolished the file generally; but as it is impossible to preserve perfect accuracy, we use a small file sometimes.

1907. Does that perfect accuracy arise from the perfect state of your rollers?—It depends on two or three circumstances; first, on the nature and quality of the gold imported. Sometimes we find the gold and silver very good, very ductile; we then can work it extremely well; sometimes it is extremely brittle; a great deal flies away in the working. Supposing we have good bars, then the regularity of our money depends upon the accuracy of every particular operation. I can describe, if it is wished, the process of the Mint. The first is in the breaking down, that is the technical term, reducing by very severe and hard pressure the bars which come from the melting-house the thickness of an inch: and I beg to state that I can give the expense of our present mode of

Mr. *Jasper Atkinson.*

30 May 1837.

manufacturing as compared with the old process, for we are doing now with our great rollers, what, in former times, our melter did by his melting-pot. They were then poured into bars of a certain width and a certain thickness, in proportion to the thickness of the monies we were making; but there were some difficulties exhibited just after the great and stupendous machinery of the Mint had been erected, in melting the quantity that might be required daily for large coinages so thin, that it was thought necessary, having large machinery, to melt them into bars of an inch in thickness, which would enable the melter to carry on his process with ease in his department. It was also found, and I believe has been found in all the mints, that bars poured so thin as they used to be, were subject to little bubbles, the air entering in pouring, which rendered the bars, when elongated by rolling, hollow and defective, and naturally the pieces became dumb, without any sound; therefore it was thought advisable to melt bars of such a thickness as was most likely to prevent such a circumstance happening, and the bars we now have (an inch thick, and the width of the coin we are about to make), were ordered to be melted by the master of the Mint. That operation being completed, and the various processes of annealing, so as to render the bars sufficiently ductile to go through the operation, they are then taken to rollers constructed in the most beautiful manner, and the last invention. Having undergone the operations of cold rolling and reducing the bars to nearly the thickness of the coin required, the operations of that department are finished, and the bars are weighed by one of the moneyers who may be appointed to take the superintendence of that particular department, and then they are taken into the department of what we term the drawbench; this drawbench is an instrument of very recent invention, and suggested by our late comptroller, Mr. Barton, the father of the present comptroller, as the means, as he conjectured, of at once overcoming the many practical difficulties hitherto experienced in giving that accuracy and uniformity to the gold and silver coin of England which the Government had determined it should possess when issued from the Royal Mint, after the introduction of this stupendous and beautiful machinery therein introduced; numerous experiments have proved the impossibility of obtaining such accuracy by the art of rolling, however beautifully and scientifically the rollers may be constructed, more particularly since the remedy allowed for variations in the weight of the coin has been diminished from 20 grains in the pound of gold to 12 grains, and from 48 in silver to 20, and this arising from practical causes I should be happy to explain to the Committee. Now, although the drawbench has not answered the sanguine expectations of the inventor, the Company of Moneyers, after two years' experience and very heavy expense in experiments, were fully able to deliver the various coins much more accurately and uniformly than by any other process; but have never obtained a greater produce from any given weight of bars than by rolling, with the old remedy, which is seven-twelfths amount of coin. Those bars having been carefully passed through the drawbench, which requires a person of great experience and very great practice to undertake the management of the said instrument, if they are proved to be of proper weight, and the pieces cut from the bar are standard, they are then taken to engines called cutters, cutting out or punching by a mechanical operation, as many blanks as each bar will make; the residue, which is called scissel, is packed into what we call journey weights, 15 lbs. of gold and 60 lbs. of silver, these are carefully weighed by one of the moneyers who may be appointed to superintend that particular department, who deposits them in a stronghold for that purpose until sent to the melter to be again melted into bars; the blanks are also weighed into journies, and are then sent into a department called the sizing-room, or adjusting-room, where each piece is separately weighed and is again checked by the checkman. To prevent any imperfect piece being sent to the other department, and to prevent any dumb, unsound or hollow pieces getting into circulation, we have recently adopted the process of sounding each piece upon a circular mass of iron, which detects instantaneously any piece which may be defective; the good blanks are then again weighed into journies and are sent into what is called the marking-room, for the purpose of raising up the metal to fill the protecting edge of the coin to be struck, as well as for the purpose of equalizing the circumference, to avoid any irregularity and to prevent any difficulties in the operation of stamping; those journies are again weighed from the marking-room to the annealing and blanching-rooms, which operations render them

Mr. *Jasper Atkinson.*

30 May 1837.

them soft and clean, ready to receive the last operation of stamping or coining, into which department the journies are again weighed, and when coined, from that department by another moneyer, who may have that particular charge. The accounts of each department are brought to the two senior moneyers in waiting, they are separately entered in a day-book for that purpose, and each senior moneyer having a particular book, makes it up, showing the daily balance in the various strongholds, and then carefully examines the different strongholds to ascertain whether the journies of scissel and cutwork, and so on, correspond with the accounts in their books; being satisfied that the balances agree, the work is done for the day; the scissel is taken to the office and weighed by the weigher and teller in a manner similar to that in which the bars have been weighed to the moneyers from the melter, in the presence of one of the chief officers, and the melter and the moneyer; the moneyers are then credited for the weight of scissel in the common books of the Mint. Now, previous to the delivery, the money having been coined, it is what is termed pyxed; a given number of journies, either gold or silver, are taken to the Mint office at a certain hour, attended by a moneyer, who, in the presence of the comptroller, the King's assay-master and King's clerk, opens a bag or journey, from which the weigher and teller takes out a pound, he being satisfied as to the number of pieces, which he does by a little box to ascertain the number of pieces in each pound, he gives it over to the King's assay-master, who weighs it and reports if it be standard, or if it be plus or minus, which is registered by each of the beforementioned principal officers; two pieces are then given to the comptroller out of the pound weight, who weighs them separately, one is retained for the general trial of the pyx, and the other for immediate trial by the King's assay-master, on whose report the monies are ordered to be delivered, and the Company of Moneyers are virtually exonerated, and the weight delivered goes to their credit, and so on, till the coinage is completed.

1908. Mr. *Hume.*] Are the monies delivered by weight or by tale?—By weight; and at the end of every delivery the weight is made good by the moneyers before they leave the office.

1909. Mr. *Herries.*] You stated, with reference to the greater accuracy with which the English Mint is enabled to work as compared with the French, that the difference was owing chiefly to certain parts of the process and machinery which existed in the English Mint; on what part of that you have now described do you chiefly rely for the proof of that assertion?—Upon the power and nicety of every operation; but we are indebted to the instrument called the drawbench for the great accuracy by which we have been enabled to issue our monies; it is an instrument which requires a great deal of knowledge and experience; a man could not be an adept in it under six months perpetually working it; a man must be perfectly acquainted with that instrument to use it well; I know they have introduced it into one or two of the mints abroad, but that they have had very great difficulty in bringing it into operation; it depends upon the nicety of its manufacture and the perfection of its parts; we have found difficulty in teaching men the knowledge of that instrument in our own Mint.

1910. *Chairman.*] Do you not attribute the greater accuracy of the English coin over that made in the French Mint to the circumstance of the process of the English coinage being worked by officers who have no other interest than that of keeping it as near the standard as possible; whereas in the French Mint it is left to the contractor to make the coin; and all that he is required to do is to keep it only sufficiently near the standard to be within the legal remedy?—Yes, certainly; it is necessary to have check officers, to see that the thing is done well; it is to our interest to be as nice in all our operations as possible; I have found by experience that if the first operation is not well attended to, all the rest must be bad as a matter of course.

1911. Has the Company of Moneyers any interest in departing from the standard?—Decidedly none.

1912. Have not the French contractors an interest in coining the money as near to the worse side of the remedy as they can do, provided they keep within it?—Decidedly; and they do take advantage of that.

1913. Is it not to this difference of interest you mainly attribute the greater cost of the English than the French coin?—No; we undertake the coinage, and we have a remedy which is very limited; and we cannot take advantage of the

Mr. *Jasper Atkinson.*

30 May 1837.

remedy when we are working, but we look always to the standard; in our department we know nothing of the fineness; that rests with the melter.

1914. Mr. *Hume.*] You stated that one of the reasons of the additional expense of our coinage was the metal being frequently brittle, and subjecting you to a great deal of labour; does not the same inconvenience arise in the French Mint as the English Mint in respect to the metal being ductile or brittle?—I do not think I said generally; I said sometimes it has happened that the metal was brittle from certain circumstances, and that the company has difficulties to contend with in that respect.

1915. The machinery you have described being very much superior to the machinery of France, does not that give you a great power of working more rapidly than the French?—Most decidedly; it is very advantageous to the public but not so much so to the manufacturer, inasmuch as he, for small coinages, must set the whole machinery to work; it is more expensive to him. They have a steam-engine, I should observe, at the Paris Mint; I asked the contractor why it was not set to work; he said it was so expensive he could not afford it; and six years ago, when I was there, it had been some time in a quiet state, and has so been ever since.

1916. Do your observations apply to the increased expense incurred by you in smaller coinages?—Yes; and the Committee will observe in looking at the accounts, our expenses now, as compared to what they were in the period of 1770 to 1781, are more than doubled; whether it was a small coinage or a large one, they are more than doubled.

1917. Can you divide into the separate heads of labour, materials, and whatever other divisions there may be, the account of those expenses, so that you might be able to state in what the difference has consisted at the different periods?—I can state what it will cost to set the machinery at work; for instance, so as to illustrate what I mean by the expense, I have a little account to show that. I will suppose Government want 600 lbs. weight of silver, that will be from 18,000 *l.* to 20,000 *l.*; that is a small sum to be required; and as silver is a very precious article, they will not import into the Mint much more than the weight of bullion required to be coined; if we are to have the 600 lbs. weight of silver sent in, we should be obliged to set on the 30-horse steam-engine, with all our men; for the man who is expert in one particular operation is not in another; then we should have the 16-horse engine to be set at work to cut a portion of this; the 30-horse engine burning about 36 bushels of coals per day, which cost us 1 *l.* 10 *s.*, the expenses of rolling that out will come to 2 *l.* 13 *s.* 6 *d.*; the draw-bench and the cutters come to about 2 *l.* 4 *s.* 6 *d.*; the 16-horse engine will burn about 18 bushels of coal, which comes to 15 *s.*; and sundries will come to about 5 *s.* Now the 600 lbs. of silver will produce, after deducting what we call ends, which are imperfect, 300 lbs. of good coin; the remaining 300 lbs. being melted again into bars, comes into operation, and the whole of that expense is incurred again; the rolling and cutting of that produces 150 lbs.; that 150 lbs. will produce 75 lbs.; that 75 lbs., 37 lbs.; we should then have the same expenses of rolling and cutting; and the sum of 35 *l.*, which would be the whole paid for the manufacturing, while the expense of manufacturing, with the loss incurred, would be about 47 *l.*, including the whole expense in the stamping, annealing, blanching, and every other operation.

1918. Of that excess what proportion would the French Mint save?—The French Mint would be just on this principle; instead of a 30-horse engine there would be an instrument, like that shown on this drawing; rollers are set to work by means of horses, and they have only to get the bars melted and put one or two horses to work, and there is no further expense.

1919. Are the Committee to understand that the machine, a drawing of which you now show as being in use in France, would answer equally well here, where you have very large coinages?—Decidedly not; there is the advantage the machinery at the Mint has for emergencies, when the public requires a supply, as was proved in 1816 and 1825, when we had bullion sent in during the panic: we received in the morning bullion at nine o'clock, and we struck off 47,000 sovereigns before ten o'clock at night, and continued during the Sunday; it was only by the exertions of the Mint the Bank was enabled to meet the pressure till a reaction took place, but that was not till nearly 1,000,000 *l.* was coined; which could not have been done by an engine of the kind used in France.

1920. Can you form an estimate of the rate per cent. incurred by the use of your

Mr. *Jasper Atkinson.*

30 May 1837.

your machinery as compared with the smaller?—If the Committee will refer to the returns that have been given in, it will be found that our expenses in 1770 to 1781, when our machinery was of that kind, were about half the amount they were from 1827 to 1836; the fact that the expenses are double arises in a great degree from the expense of machinery and the difference in the price of wages; we used to have our presses pulled by men at 2*s.* and 2*s.* 6*d.*; other wages were also in a less proportion, and our expenses in keeping the machinery in order were also very much less than they are at present.

1921. Are you aware whether wages have not equally increased in France during the same period?—I cannot state whether they have or have not increased; but I can state the fact that their wages are very low.

1922. Are the Committee to understand that it will be much more economical to have the old machinery re-established for the smaller amounts of coinage, than using your larger machinery for those purposes?—That is for the consideration of His Majesty's Government; whether it would be worth while to erect machinery for small coinages, I cannot say.

1923. Can you give any estimate of that smaller machinery you formerly employed, if rendered efficient for a complete coinage?—No, I have no means of ascertaining the expense; there must be a department expressly for it, and there is no room in His Majesty's Mint in which to erect it.

1924. *Chairman.*] Do you think you could not put up a smaller machinery in addition to that which already exists, without building new rooms?—The machinery itself would be of such a bungling nature, it would be impossible to turn out the coin so regularly as we do at present. In a country like this, with a monetary system so extended as it is, whether it would be worth while to revert to the old method is a question for the consideration of Government. What could have been done in the year 1816? From the 5th of June 1816 to the 4th of March 1817, which was nine months, we manufactured the enormous number of 57,960,936 pieces, making in value 2,745,666 *l.*; total per day 247,696 pieces, at each press 30,962.

1925. Mr. *Hume.*] At that time the whole of your machinery and apparatus was in employment?—Yes.

1926. Was not there a great corresponding saving at the time as compared with the French Mint?—The fact was, we had a quantity of bullion about, and the robberies were very great; we ascertained afterwards that even bars were taken away, so that the anticipated saving was not then realized.

1927. *Chairman.*] You find you are liable to robberies?—To peculations to an enormous amount, having 50 or 60 men and boys at work; we know it is a very difficult thing to find 50 or 60 honest men; a day does not pass without peculation, and often we have considerable robberies; we had one in 1798, by a man of the name of Turnbull, who took 2,804 *l.*, and again, in the year 1830, a similar amount of 2,804 sovereigns, taken by a man of the name of Keith.

1928. How did those arise, by whom were the robberies committed?—By two of our working men; and in the latter instance, by a man whom we esteemed, and thought to be a perfectly honest man.

1929. From what departments were they committed?—From the blanching and coining departments.

1930. You state that the blanks are weighed into the pickling departments in journies?—Yes, in small bags.

1931. And that they are weighed out of the pickling?—Yes, to and from.

1932. You wanted some further check?—They were taken out of the stronghold. The man took an opportunity, I suppose premeditating it, but how he got out of that department I cannot tell; but he did, and he is now safe in New York. That in 1798 was *vi et armis*, for the man came with a pistol and served himself.

1933. Was Keith a person in regular employment?—Yes, for 13 or 14 years; he was by trade a shoemaker, and by way of giving him encouragement, we used to give him various jobs; considering him a very steady man, we had determined to benefit him, and when one of the men on our pension list died, we considered whom it would be best to put on; we said we had better give it to old Keith, because he has been so good a man; it was in nine or ten days after that he robbed us, but we found afterwards that this had been schemed by the Jews.

Mr. *Jasper Atkinson.*

30 May 1837.

1934. *Chairman.*] Is the Company of Moneyers liable for all the bullion and coin that is in their possession?—Yes; we receive it by weight, and return exactly the weight and same standard; we bearing all waste and robberies, and peculations.

Jovis, 1° die Junii, 1837.

MEMBERS PRESENT.

Mr. Ridley Colborne.	Right Hon. Henry Labouchere.
Sir Thomas Fremantle.	Sir Charles Lemon.
Mr. Goulburn.	Mr. Parker.
Mr. Herries.	Mr. Wall.
Mr. Hume.	Mr. Warburton.

RIGHT HON. HENRY LABOUCHERE, IN THE CHAIR.

Mr. *Jasper Atkinson,* called in; and further Examined.

Mr. *Jasper Atkinson.*

1 June 1837.

Mr. *Atkinson.*] I BEG leave to hand in a Return for the interval between the Returns I presented on a former day.

[*The same was delivered in, and read, as follows:*]

AMOUNT of GOLD and SILVER Coined, with the RECEIPTS, EXPENSES and PROFITS of the COMPANY of MONEYERS from 1816 to 1826, inclusive; the Receipts include the amount received for Copper also Coined during the same Period.

YEAR.	GOLD.	SILVER.	RECEIPTS.	EXPENSES.	PROFITS.
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
1816	Nil.	1,805,251 16 –	34,242 4 11	15,933 17 1	18,308 7 10
1817	4,261,320 – –	4,241,358 – –	57,042 12 5	30,930 2 –½	26,112 10 ½
1818	2,862,373 10 –	576,279 – –	20,021 14 3	10,694 5 3	9,327 9 –
1819	3,574 10 8½	1,267,272 12 –	21,773 7 8	15,073 1 8	6,700 6 –
1820	949,516 – 10¾	847,717 4 –	21,506 18 1	9,676 14 5	11,830 3 8
1821	9,520,758 13 9¾	433,686 – –	41,395 13 10	18,297 12 5½	23,098 1 4½
1822	5,356,787 12 6	31,430 7 1½	28,859 11 3	11,959 13 10¼	16,899 17 4¾
1823	759,748 – –	285,271 16 –	11,599 7 5	8,754 6 11½	2,845 – 5½
1824	4,065,075 – –	282,070 16 –	19,915 14 –	9,337 10 7	10,578 3 5
1825	4,580,919 – –	417,535 16 –	24,941 19 10	12,566 5 8	12,375 14 2
1826	5,896,461 7 6	608,605 16 –	42,948 9 9	16,905 13 5	26,042 16 4
£.	38,256,533 15 5	10,796,479 3 1½	324,247 13 5	160,129 3 4¾	164,118 10 –¼

1935. *Chairman.*] Are you desirous of making any statement to the Committee in addition to the evidence which you gave when you were last before them?—I should wish to state to the Committee the manner in which the Company of Moneyers has been perpetuated by taking apprentices. From the year 1713 to the year 1757, the Company of Moneyers selected their apprentices, and received the sanction of the respective masters during that period. On the 10th of August 1757 the Company of Moneyers having, according to their usual custom, nominated a young man of the name of James Collard, wrote to the Right Honourable William Chetwynd, who was then master of the Mint, for his approval; at the same time they asked him whether he had any wish to nominate an individual, which he at first seemed disposed to do, but, as he says in a letter to the company, "finding the circumstances of the young man's parents were not sufficient to justify him to recommend the moneyers taking the young man in question, he declined, and he requested the moneyers to select for themselves." In the year 1762 the Company of Moneyers wrote to Mr. Chetwynd again, asking him whether he would feel disposed to nominate any young man. His answer was as follows: "that the trust reposed in the Company of Moneyers was so great, he did not choose to recommend

recommend any apprentice, and that as the company was answerable to him, he thought it most proper for them to pitch upon such persons as they should approve of to be members of their body, and that he would give his consent to it." From that period to the year 1814 the moneyers, as usual, perpetuated the company, with the approval of the various masters, until we had selected, according to our usual custom, the son of one of the senior moneyers, a young man who had been educated expressly to follow his father's steps, of the name of Fletcher. Instead of writing to the master, according to custom, my father, who was senior moneyer, waited upon the Right Honourable William Wellesley Pole, then master of the Mint; he communicated the act of the company, at the same time requesting to have his permission to the appointment. Mr. Wellesley Pole for some time hesitated to give his sanction to the appointment. After a second interview with my father and Mr. Fletcher, and some conversation passing between the parties, Mr. Wellesley Pole said he would give his sanction to the appointment of Mr. Fletcher's son upon one condition alone, and that was, that we should take as an apprentice the son of a recently-appointed Birmingham artificer, of the name of Jerome. This, of course, very much affected Mr. Fletcher, who had been a great many years a moneyer; and without any hesitation, in the presence of Lord Maryborough, he declined having his son brought in as an apprentice to the Company of Moneyers under such extraordinary conditions. The consequence was that Mr. Fletcher's son, who had been educated for the purpose, and expected to follow his father's steps, was put into another business. I only mention this circumstance, because it was during Mr. Wellesley Pole's mastership of the Mint that the Company of Moneyers, for the first time, ever entered into any bond of security for the performance of their duties, which was for 5,000 *l.*; and the moneyers, up to that period, having endeavoured to uphold their situation, which was one of great trust and responsibility, could adopt no other line of conduct than that which Mr. Fletcher, without any hesitation, approved.

1936. Did you consider this young man whom Mr. Wellesley Pole wished to appoint as an improper person to be appointed, on account of his circumstances and the circumstances of his family?—He was the son of a common mechanic, a man now in our employment at two guineas a week; that boy was then employed as a labourer in one of the departments of the Mint.

1937. Neither of them were appointed?—Neither of them.

1938. What were the circumstances of the next appointment of apprentices?—The next appointment was the son of Sir Francis Ommaney, a highly respectable person, well known as a navy agent, a most intimate friend of my father; in short, they were schoolboys together; he was elected according to the custom, and the then master approved of the election.

1939. Who was master at that time?—The Right Honourable Thomas Wallace.

1940. Did Mr. Wallace claim the power of appointing any individual himself at the time that Mr. Ommaney was appointed?—Not to my knowledge.

1941. Was any other person appointed at the same time?—Not any; he was appointed singly.

1942. What were the circumstances of the next appointment of apprentices?—There was one nominated by the company, of the name of William Nicoll, cousin of one of the present moneyers, and nephew to one now dead; that was in 1827, in Mr. Tierney's mastership.

1943. You before stated, that upon that occasion Mr. Tierney had appointed a friend of his own as an apprentice?—When the letter was written to Mr. Tierney, stating that we had, according to our custom, elected Mr. Nicoll, in a conversation my father had with Mr. Tierney, Mr. Tierney said, "but I should wish to nominate an individual myself;" my father immediately said, I will mention your wishes to the Company of Moneyers, and I have no doubt they will be happy to meet your wishes, or something to that effect.

1944. The person appointed by Mr. Tierney is at present one of the moneyers?—He is: he became so on the 1st of January 1835.

1945. Mr. *Wall.*] Are those the only two cases, that under Mr. Tierney's mastership, and that under Lord Maryborough's, in which the master has interfered with the appointing of apprentices?—The only two on record.

1946. Sir *Thomas Fremantle.*] In the case of the gentleman nominated by Mr. Tierney, he paid the like premium?—Of course.

1947. *Chairman.*] Do not you think it would be desirable that this species of interference of the master in the appointment of apprentices with the Company of Moneyers,

Mr. *Jasper Atkinson.*

1 June 1837.

Moneyers, with whom he has a pecuniary contract, should be put an end to?—Most undoubtedly; and I hold with that which Mr. Chetwynd himself said, that as we were responsible to the master, we should appoint persons in whom we had perfect confidence.

1948. Mr. *Wall.*] Has the fee stated by you as paid upon any gentleman becoming an apprentice ever been higher or lower than 1,000 *l.*?—It has been lower on particular occasions, at the discretion of the company; I give myself as an example: my elder brother was selected and appointed; after remaining from the 1st of December 1801 to 1804, finding that his taste was quite different to that required for a moneyer, he requested permission of the company to allow him to follow the dictates of his own feelings, namely, the sea service; after some consideration, they cancelled his indentures, and I was appointed, in consideration of my father's services, at a much smaller fee; I believe it was 300*l.*

1949. You have stated in the course of your evidence that you are very short of moneyers; now, will you state how many you consider it desirable to have for the dispatch of business?—I should say that when we are very busy with a great deal of gold, we require two senior moneyers to have the general superintendence of the department, and that we should have one moneyer in the rolling department, another to superintend the drag and the cutting department, a third to superintend the sizing-room and the marking-room, and a fourth to attend to the press-room; therefore, it would require always six to be on duty.

1950. Is it your opinion that it would be desirable to limit the number of moneyers?—I do not see how they can be limited; because as we never superannuate our old fellows, they must do as they do in the world, the young ones work for the old.

1951. How low would you like the number to come before you took fresh apprentices?—I think we are as low as we ought to be now; we are seven.

1952. *Chairman.*] And six are required for the ordinary business?—Yes; that is supposing us all to be fit for work; our provost at 80 is not fit for active duty, my colleague, who came in at the same time with myself, is paralysed and unfit for duty; therefore we have only five effective at the present moment.

1953. Do you know whether it is the intention of the moneyers to increase that number?—Most undoubtedly we ought to do it.

1954. Mr. *Wall.*] When the company were more numerous, was there a proportionate increase in the apprentices; you have stated that in 1668 there were 15 moneyers, in 1694 there were 13, in 1726 there were eight; can you state the number of apprentices in each of those years?—No, I cannot.

1955. You have mentioned in the course of your evidence ductile and brittle gold; there are no such things as brittle silver bars, are there?—Very brittle indeed.

1956. Do not you consider that the comparison must be defective between the French and the English Mint, which you made in the course of your examination the day before yesterday, when in the one country the staple is gold and in the other silver?—They pretend to say their amount of silver coin ought to be 50,000,000 of francs a year and 10 of gold, but I doubt that very much.

1957. *Chairman.*] Are there any other points which you are desirous of mentioning to the Committee with reference to the evidence you gave last time?—In reference to the apprentices I have given all I have to say upon that subject; I should wish, if I may be allowed, to give some particular extracts relating to the Company of Moneyers from the various Reports which have been made at differen times, Garbett's Report in 1783, the Finance Committee in 1798, and Lord Maryborough's Report, so far as it refers to us.

1958. Will you read such extracts as you think it desirable to bring before the Committee?—I wish, in the first instance, to lay before the Committee a small extract from Mr. Garbett's Report relating to the Company of Moneyers; he being a Birmingham manufacturer, having an authority from Lord Shelburne, who was First Lord of the Treasury, to make an inspection of the various departments of the Mint, made a Report thereon, and after speaking of the various appointments of the Mint, he says this of the Company of Moneyers, dated 17th of September 1783, "he acknowledges that as to the manufacture, of which he said, being brought up to the business, he professed to be a competent judge, he did not think any improvement could be made."

1959 *Chairman.*] Did the Company of Moneyers allow Mr. Garbett to inspect their books?—I understand, by referring to the books, that they did not. I will next read that part of the Report of the Finance Committee relating to Moneyers, dated

Mr. *Jasper Atkinson.*

1 June 1837.

dated 22d February 1798. It is as follows: "Of the Company of Moneyers it may also be proper to observe, that the trust put into their hands is not only very great, but subject to much risk; that at no time have they made application or claim on the office for loss by peculation of their workmen, which it is well known they frequently suffer; their initiation by servitude of seven years, and subsequent deposit in the common stock of the company, are means of qualifying them for their employment, and the bond of security among themselves; during the present century no imputation has been made on their integrity or on their ability as workmen. And it may not be unnecessary here to add, that in good policy, their institution ought to be regarded and preserved, since it will be obvious any casual coinage of money given to other individuals would serve to initiate workmen in the art for a time, and then afterwards most probably leave them to practise it, to the great detriment of the public, by counterfeiting the coin."

1960. Had the Committee of the House of Commons, to which you have just referred, an opportunity of looking into the accounts and books of the Company of Moneyers?—A deputation came to the Mint to ask such questions as they thought necessary, but they never looked over our books. I have only now to add a part of the Report made to the Committee of His Majesty's Privy Council by the Right Honourable William Wellesley Pole, dated 17th March 1815: "Upon the best consideration I have been able to give the subject, I have formed a strong opinion that the present mode of paying the melters and moneyers, by rates proportioned to the weight of bullion they manufacture, making them responsible for returning weight for weight, and letting the allowance of deficiency of the weight or fineness be merged in the amount of the rates, is one by which the public and individuals are effectively secured from fraud, and which cannot be safely altered. It is I think conclusive on this point, that from the time of Edward 3, tradition tells us, these officers have been on the same footing; and there is not a single instance on record of any loss having been sustained either to the public or by individuals in the coinage of bullion at the Royal Mint; the officers have been frequently defrauded by those in their employment, but they have never claimed to be exempted from their engagements, and have always made good the losses without a murmur. This experiment, to my mind, proves the merit of the system, and I would not change it." The burthens put upon the moneyers Mr. Wellesley Pole estimated at 1,140 *l.* 14 *s.* per annum.

1961. Do you mean the additional burthens in consequence of the change in the contract he made?—No; in consequence of the expense for reparation of the machinery. "I should propose," says Mr. Wellesley Pole, "when the Mint is not at work, that the machinery, tools and furnaces, &c. should be kept up at the public expense. When I consider the complicated nature of the moneyers' business, the number of hands they are obliged to employ in the different stages of the coinage, the very great increase in the price of labour of every description, and their serious responsibility, I am inclined to think the additional expenses I have proposed to put upon them are sufficient to justify their continuing to work at the old rates."

1962. Some difference of opinion has lately arisen between the Company of Moneyers and the Board of Mint officers as to the construction of some of those parts of the agreement which relate to the machinery, has there not?—The difference merely is in the construction put on the agreement. By the agreement, which I hold in my hand, which is a copy of the indenture between the master and the Company of Moneyers, they are to supply all utensils and implements for the coinages; they are to keep in repair all the annealing furnaces, and all the other furnaces and machinery in the mill-room and cutting-out room, the steam-engines and various other things, all of which are specified in the schedule which is annexed to the agreement. At the expiration of the coinages, the moneyers are to leave the machinery in such repair and working order, *reasonable use and wear thereof only excepted.* It is upon that the difference of opinion has arisen. We have, up to the present moment, kept everything in as good repair as we possibly can; a part of one of the steam-engines, a 10-horse steam-engine, is now no longer repairable, and it requires to be renewed; it is what is called the slide-valve of the steam-engine; the question is, whether the renewal is to be paid by the Company of Moneyers or the Government. We read it that the Government should pay it, and one of the Board of Mint officers reads it the reverse, that we should pay it; upon which I took the opinion of Mr. Alexander, the King's counsel, a very eminent man, and he decidedly gave it as his opinion that we were not to renew, but that we were to keep in repair all such machinery as was specified in the schedule, as long as it could

Mr. *Jasper Atkinson.*

1 June 1837.

could be repaired, but that all accidents, whether arising from the carelessness of the workmen or otherwise, should be made good by the moneyers.

1963. You are probably aware that the solicitor of the Mint has given an opinion contrary to that?—The solicitor of the Mint has given two opinions, but one negatives the other; he gave it in our favour at first, on reading the agreement that we were not to renew, but to keep in order all such machinery; but on referring to the schedule, he says, the first thing he sees in the schedule or inventory is a 30-horse steam-boiler, and valves, and gears, &c. &c.; upon that he gives another opinion, negativing the first.

1964. Do you not think it desirable that the agreement between the Company of Moneyers and the master of the Mint should be made more clear and explicit upon this point?—With all due deference to the Committee, it appears to me perfectly clear; it says you are to find utensils and keep in repair such and such things, and you are to leave them in repair, *reasonable use and wear thereof excepted*; what could be the use of that provision if we were to renew the whole of His Majesty's machinery.

1965. Have not the Company of Moneyers been in the habit of paying for certain repairs which, under the interpretation which you now put upon the agreement, you were not really liable to?—Yes; we have replaced the boilers, but that was from ignorance, and arising from not wishing to interfere with my excellent father, who took upon himself a great deal, and did not read, or properly consider the agreement which is herein stated; after it was left to us, looking over our agreement, we found that we had been paying that we ought not to pay.

1966. Does not this confirm the supposition that the agreement is not drawn up with that explicitness aad clearness with regard to what part of the charges connected with the machinery fell upon the Company of Moneyers, and what part not upon the Company of Moneyers but on Government?—Decidedly not, for I believe my father did not look into it as he ought to have done; the moment we began to look into it we found we had been paying that we ought not, and we determined on the next opportunity to put in our claim for the renewals to be made by Government.

1967. Sir *Thomas Fremantle.*] Was your father's attention drawn more particularly to the agreement afterwards?—No, not to his dying day.

1968. Mr. *Ridley Colborne.*] What has been the expense of this renewal?—£. 20 or 30 *l.*

1969. *Chairman.*] Though the expense of the article in question is small, it may involve a considerable amount?—It depends upon the nature of the case; it may be very considerable.

1970. Mr. *Warburton.*] Does the inventory enumerate all the parts of the engine?—It says 30-horse steam-engine, boilers, wheels and gearing; it appears to me we are to keep them in repair, but not to renew them.

1971. Sir *Thomas Fremantle.*] When you have done using the machinery, and have not occasion to use it any longer, is it examined and inspected by any person to see that you give it up in a proper state?—Since the appointment of the superintendent of machinery, he has been accustomed to examine it, and see that it is in proper order to commence again; but it is to our interest to have everything kept in the best possible order, for we may be called on most suddenly to work, as we were in 1825; if our machinery had not been in perfect order we never could have accomplished that which we did in 1825; the superintendent of machinery does his duty well, and he is a most conscientious, good man.

1972. Mr. *Warburton.*] Should you be able to make a return of the receipts, divided into expenses and profits, upon the gold and silver separately?—No, certainly not, and for this reason, we are manufacturing gold and silver perhaps the same day, and copper also, and our expenses are general; it would be impossible to separate the expenses attending the coinage of the gold or the silver, or the copper separately.

1973. Mr. *Herries.*] You could not proportion the expenses of the one and the other?—No, it would be quite impossible; if we were coining silver to any certain amount, it might be done; but during the year gold and silver have been coined together, sometimes on the very same days.

1974. *Chairman.*] Is there any other point connected with the evidence you gave when last before the Committee on which you are desirous of making any observation?—I was asked questions respecting the reason why our expenses on various things were different from those of the French Mint; the director of the French Mint, which is similar to the Company of Moneyers, has the sole management

ment and undivided undertaking of the fabrication of the monies from the beginning to the end; he has the management of the melting, combining the mixture of alloys to form the standard; he is not restricted by any regulations as to the precise quantity of alloy he may mix with his gold or his silver in his melting pot; he knows pretty well by experience and skill how much may be necessary to meet the refinement occasioned by the volatilization of the copper and other admixture with the pure silver in the melting, and he adds also a sufficient quantity of copper to counteract the loss in blanching the various monies after annealing before they are coined.

1975. Mr. *Hume.*] In what manner is the coin which he turns out pyxed or tested?—The manner in which the coins are pyxed, is very similar to that of pyxing in His Majesty's Mint in England.

1976. By whom is that done in France?—I do not think I can satisfactorily give the Committee an answer to that question; but it is done in nearly a similar manner to the pyxing in His Majesty's Mint.

1977. Have you had any opportunity of knowing how far on those trials the money has been found defective or otherwise?—I have not; I have been present at the melting; they pour in a very rough manner I should say, and when the act of refining takes place, they just throw in copper sufficient (by experience) to bring it out as near the standard as possible. I know in making trials of French money melted into ingots they are invariably under the standard of the country, but within the remedy allowed by the government.

1978. Do you apply that to both the gold and silver coinage?—Only to the silver.

1979. How is the gold coinage conducted in France?—It is by the director; he undertakes both, and the same process goes on; he is bound only to produce the napoleons or livres exactly according to the standard of the country.

1980. With reference to the objections stated by you on the former day, of the great expense incurred by you in the coinages of small quantities of metal, might not that inconvenience be prevented in future by the substitution of machinery such as is used in France, or of smaller dimensions than is used here?—That is a question I hardly know how to answer satisfactorily; it would be for the Government to decide whether they would lay out a sum and appropriate a space for such an erection; but I believe even if they were to erect similar machinery to that used in the French Mint, which is in a rude way, that our coin would not be manufactured in the nice and accurate manner in which it is at this moment with the perfect machinery we have.

1981. *Chairman.*] Supposing machinery similar to that which at present exists in the English Mint, but on a smaller scale, were erected at the Mint, do you think the expense of establishing it would be repaid?—I should think certainly not.

1982. Mr. *Hume.*] Are the Committee still to understand that one of the reasons why the expense of coinage in England is higher than in France arises from the machinery?—Most undoubtedly, and from the niceness of all the operations.

1983. And yet you would not recommend an alteration to remove that?—I would rather recommend this, if it were possible, if you could regulate the quantity of gold or silver to be coined in any given period; then we might go to work without suffering the immense expense we do at the present moment.

1984. Mr. *Goulburn.*] You would recommend never coining unless you had an adequate quantity?—Just so.

1985. Mr. *Hume.*] Are you aware what quantities the smaller mints in France coin?—I am not prepared to state that; the mints of Paris, Bourdeaux and Lyons would be quite sufficient to coin the whole for the country. Ours is the most effective mint in the whole world; I have had the officers of all the mints of Europe to visit ours, who have invariably expressed the same opinion.

1986. Mr. *Wall.*] What is the advantage of having provincial mints in France?—None whatever; we had many in former times in this country.

1987. Mr. *Hume.*] In the return of gold and silver coined from 1816 to 1826, in the last of those years 16,905 *l.* is put down as the amount of the expenses; can you give the Committee a detail of those expenses under the separate heads of salary, materials, wages, and so on?—I am afraid not.

1988. You have stated that you cannot distinguish the expense on gold, silver and copper; but do you not keep a regular account of your establishment as to wages?

Mr. *Jasper Atkinson.*

1 June 1837.

wages?—We do, but we have so many small accounts; our daily labourers have small sums given to them; there are other charges; it would take a twelvemonth to give the detail required; I can give the substance, namely, of the whole amount received as profit.

1989. Did you not state that you kept a regular establishment in the different rooms?—Yes; the men are not allowed to go from one department to another, but all the men are entered, and the wages are shown in one account.

1990. Have you not stated you have a regular establishment in each of those departments, and do not you keep a book made up of the aggregate, so as to give an approximation, if not the actual expense?—I do not think I could do it with satisfaction, there are so many little details; every sixpence is put down; but if the master of the Mint would like to see the nature of the thing, the books will be open to him any day.

1991. You have already stated an additional heavy expense in fuel for the large machine which you now employ; have you any means of showing a comparison of the expenses of the old machinery and those of the new?—The comparative statement of 1783 and the present time shows our expenses are double. I have extracted from our books an account of the expense of keeping the machinery in order when we were not at work: in 1704 it was about 6 *s.* a week, it is now 40 times the amount; this is taken from the minutes of the company's books, of the 11th October 1704: "Ordered, That Thomas Seabrooke have an allowance of three journey days or 6 *s.* per week, to commence from April last, and the benefit of the engineer's shop and house, in consideration that he take care to clean and keep in repair all the company's engines and tools, and such other business as the provost thinks fitting, till further orders."

1992. What is the expense now?—The expenses, when we have nothing to do, for the labourers we employ, are nearly 600 *l.* a year.

1993. How does that appear?—We have two engineers, to whom we give a guinea a week each; we have two smiths, together 3 *l.* 7 *s.* a week; we have another person to whom we give 2 guineas a week when we are doing nothing; we cannot part with him, he is too good a man; and another man a guinea a week; another, a labourer, a guinea a week; and we retain six labourers at 1 *s.* a day, 1 *l.* 16 *s.* a week.

1994. Is that the amount paid when the engines are not employed?—Yes, when we receive nothing.

1995. There is no part of those wages paid at the time when the coinage is going on?—Yes, the whole; but these are the retaining fees; then there are materials, various little things going on continually.

1996. Those items are included in the account of expenses you have given in?—No, those are the expenses when the work is going on.

1997. Are the Committee to understand that that account you now produce is in addition to the Return you have given in of the expenses attendant upon the coinage?—No; the return shows our actual expenses during the coinage, and these are what we are at when we are doing nothing; when we were doing nothing, it was 6 *s.* a week, till the time we came over to the new Mint; we are now at the expense of 600 *l.* per annum.

1998. *Chairman.*] The 600 *l.* a year must be paid out of the profits?—No; this is paid out of our pockets, out of our capital.

1999. Then that 600 *l.* a year must be deducted from those annual profits you would otherwise divide among you?—The 600 *l.* a year we should pay, supposing we were unemployed for a whole twelvemonth, out of our capital; therefore there would be a diminution of capital, and we must make it up out of our own pockets.

2000. Mr. *Herries.*] Do you mean to say, that in the return you have made, under the head of expenses you include those expenses which fall upon you at the time you are working?—Yes.

2001. You are understood to say, that in addition to those you have exhibited as being the amount you pay, under the head of expenses, in the account returned to the Committee, there is a further charge to the moneyers during the time they are not employed at all?—No.

2002. Mr. *Hume.*] Are there any other expenses besides those you have now stated and those you have before given to the Committee incurred by you as moneyers?

moneyers?—We are now, for instance, at a very heavy expense in repairing the boiler, which will cost us about 100 *l.*; that is coming into the present year.

2003. Mr. *Warburton.*] That would be included in the expense of the following year?—Yes; but if we do nothing in the course of the year, it will come out of our own pockets.

2004. Have there been any years during which you were not employed?—There has been no year since I have been a moneyer.

2005. In the account from 1818 to 1826 are the payments of a guinea a week to certain workmen, while the machinery was standing still, included?—Yes; those are retaining fees; when we are at work they are increased.

2006. *Chairman.*] In the return you have submitted to the Committee, the proportion of the expense and the profits appear to be very different in different years. In the year 1825 the expenses amount to 12,500 *l.* in round numbers, and the profits to 12,300 *l.* in round numbers, whereas in 1826 the expense amounted to 16,900 *l.*, and the profits to 26,000 *l.*; what is the cause of this great disproportion between the expense and the profits in different years?—Without being able to answer decidedly, I presume there were some large repairs, a bill of Maudslay or a bill of Rennie, to make the increase.

2007. Mr. *Herries.*] Of course a loss by robbery will affect the balance?—Yes.

2008. *Chairman.*] Is that sufficient to account for the great disproportion of expense to the profits which runs through the whole account?—I was quite astonished myself at finding the difference, in consequence of which we looked over the account again, and found everything regularly entered.

2009. Mr. *Hume.*] Are you aware that in 24 years, by the return before the Committee, the whole expense for machinery in the moneyers' department is 16,749 *l.*?—That includes the reparation after the fire, I should suppose.

2010. Was that amount paid by you or the Mint?—Not by us.

2011. (To Mr. *Morrison.*) Are not all these bills for machinery, amounting in 24 years to 16,749 *l.*, paid by the Mint?—They are.

2012. What charges in respect to the machinery is it the moneyers are expected to pay for?—The repairs of the machinery; a great deal of new machinery was provided for the new coinage.

2013. Mr. *Hume.*] The amount of 16,400 *l.* is stated to be profit; are those profits equally divided among the moneyers?—Equally, the moment they are admitted.

2014. Are there any other profits in the moneying department besides those stated in those returns you have given in?—None whatever; but I should state that every moneyer in attendance receives a small sum of 5 *s.* a day for his extra trouble, which goes under the head of expenses.

2015. Is that the only personal receipt the moneyers have besides a division of the profits in common?—The only one.

2016. Mr. *Hume.*] Can you furnish the Committee with an account of the amount of gold and silver and copper coinage at the Mint for a long period past?—I can give an account of gold and silver from the year 1558 to the year 1830; I have an abstract in my hand.

2017. From whence have you got those particulars?—Those are from my own private papers.

2018. Mr. *Herries.*] Can you assist the Committee in referring to the original documents from which your information was derived?—Some of them I can, some I cannot; my father and my uncle referred to some of them, and I have extracted them into this book.

2019. You cannot vouch for their being extracts from the originals?—I cannot: but I take for granted it is as correct as it is possible to make it.

[*The Abstract was read, as follows:*]

GOLD and SILVER Coined by MONEYERS from 1558 to 1830.

Gold Coined from 1558 to 1830.						Silver Coined from 1558 to 1830.					
Weight.				*Value.*		*Weight.*				*Value.*	
lbs.	*oz.*	*dwt.*	*gr.*	£.	*s.* *d.*	*lbs.*	*oz.*	*dwt.*	*gr.*	£.	*s.* *d.*
3,353,568	9	3	21	154,762,335	1 10	11,822,756	11	6	1	39,139,581	– 8

Mr. *Jasper Atkinson.*

1 June 1837.

2020. Have you reason to believe that is the total amount coined under the directions of the Mint in London or in the country?—Yes, in the mints altogether during that period.

2021. What is the date of the last provincial mint in this country?—I believe the time of King William the Third.

2022. Mr. *Warburton.*] Have you any information as to the profits of country mints?—Yes, I have a very peculiar minute in reference to the re-coinage in 1697; this is a minute from our own books; I find from the minutes of the Company of Moneyers that they sent some of their fellows to superintend the various mints in the country from the Mint in the Tower of London, who shared in the profits; this is a minute dated the 30th of January 1697, "computed by Mr. Russel and Thomas Kemp, that 10,000 *l.* may be shared between the fellowship, which is 666 *l.* 13 *s.* 4 *d.* per share, of the profits of the country mints," there being at that time 15 moneyers.

2023. Mr. *Hume.*] Does the account you have given in include the coinage for Scotland or Ireland?—I believe it makes up the whole amount coined in the United Kingdom; for in looking over the document, I find it stated such amount was coined in Scotland.

2024. Mr. *Herries.*] Was that since the Union?—No, I think before; I think that is the whole amount, taken from various papers, they were able to collect of the gold and silver coined in the three kingdoms of England, Scotland and Ireland before the Union as well as afterwards.

2025. Mr. *Warburton.*] If the master refused to sanction the appointment of an apprentice, would the Company of Moneyers be authorized to appoint an apprentice of their own authority?—They could not do it without the sanction of the master of the Mint; the appointment is not final till the master has given his assent in writing.

Mr. *W. H. Barton,* called in; and further Examined.

Mr. *W. H. Barton.*

2026. Mr. *Hume.*] CAN you inform the Committee where the controlment rolls are kept?—The roll itself is delivered, after it is sworn to, into the Audit-office, and when they destroy the accounts of the master of the Mint, which they do at certain periods, those which they think may be valuable to the department they send back; they have sent me a number of rolls. Copies are preserved in the books of the office. I cannot say how far they go back, but for a very long period.

2027. Will you examine how far back in your office those rolls, or copies of them, can be found?—I will do so.

Mr. *J. W. Morrison,* called in; and further Examined.

Mr. *J. W. Morrison.*

2028. *Chairman.*] WILL you have the goodness to explain to the Committee what takes place at the trial of the pyx before a jury of the Goldsmiths' Company?—I have here a statement of the way in which the public trial of the pyx originated, and how it is ordered, which I will read from the indenture: "When His Majesty is pleased to call for the money in the pyx to be tried, by order of his Council, the same is signified to the Lord Chancellor and Lords of the Treasury. The Lord Chancellor summons a jury of goldsmiths for the trial. The Treasury order the Mint officers to produce their pyx, and the King's Remembrancer to swear the jury. The Chancellor of the Exchequer directs proper offices to be prepared at Westminster for the business, and orders the standard weights and trial pieces to be produced for the service. Upon the day appointed the Council meet at the Gentleman Usher's apartments, about ten in the morning, when the Mint officers and jurors attend. And, after the jurors have been sworn by the King's Remembrancer, the Lord Chancellor presiding, gives his charge to the jury, showing the cause of their assembling, the importance of the business, and submitting the examination of the monies to their care and skill as artists conversant with the several processes. The Council then depart, the Lord Chancellor directing where to attend him with the report, and the jury proceed to the Duchy Court, where the pyx, the standard weights and trial pieces are laid before them, with exact accounts of the coinage from the last trial. The jurors, being now the King's weighers, tellers and assayers for the time, examine the ensealed packets in the pyx by the accounts, tell out the coin, weigh it and calculate the remedy allowed. They then melt a portion of the several coins at their pleasure, and make

trial

Mr. J. W. Morrison.

1 June 1837

trial of the masses so melted, as also of the standard trial plates, in presence of the Mint officers, by the usual process of assaying in furnaces erected for the occasion, and then comparing in their balances the assays of the coin with the assays of the trial plates, they determine and declare the state of their fineness, all which they draw up in the form of a verdict, sign it, and together wait on the Lord Chancellor, where the King's Remembrancer attending, he calls over the jury, reads the report, which the foreman declares to be their verdict, and the Chancellor gives it to the Remembrancer to be recorded. After which, the jury having finished their business, immediately depart. The Lord Chancellor reads an extract from the indenture of instructions to the jury." Every pound weight troy of all the monies of gold shall be in value 46*l.* 14*s.* 6*d.*, and shall be in fineness, at the trial of the same, 22 carats of fine gold, and 2 carats of alloy in the pound weight troy, which standard aforesaid of 22 carats of fine gold, and 2 carats of alloy in every pound weight troy, our Sovereign Lord the King doth will and ordain and establish by these presents to be the right standard of Crown gold. And every pound weight of the silver monies shall be in value 3*l.* 6*s.* sterling, and shall be in fineness, at the trial of the same, 11 ounces and 2 pennyweights of fine silver, and 18 pennyweights of alloy, which 11 ounces and 2 pennyweights of fine silver and 18 pennyweights of alloy in the pound weight troy as aforesaid is the old standard of fineness of the monies of silver of England. But because the said monies may not continually be made in all things according to the right standard, but peradventure, in default of the said master and worker, it shall be found sometimes too strong or too feeble, by too much or too little in weight, in fineness, or in both, our Sovereign Lord the King doth will and command that when the said monies of gold shall be found at the assay, before the deliverance, too strong or too feeble, all only in fineness the sixteenth part of a carat, or all only in weight 12 grains in the pound weight of gold, and no more, the which sixteenth part of a carat in fineness, and the 12 grains in weight shall be called remedy for the master, then that money shall be delivered for good, so always that such respective defaults happen by casualty, otherwise not; and our Sovereign Lord the King doth further will, that when the said monies of silver, upon the assay, before the delivery, be found too strong or too feeble, all only in weight by one pennyweight, or all only in fineness by one pennyweight in the pound weight troy, after the old computation of 20 pennyweights in the ounce and no more, the which one pennyweight in fineness, or one pennyweight in weight, shall be called remedy for the master; then such monies shall be delivered for good, so always the same default do happen by casualty, or otherwise not. And when the monies shall be coined and complete, the master and worker, comptroller and chief clerk of His Majesty shall put them into a chest or room, locked with three keys, whereof one shall remain with the said master and worker, one with the said comptroller, and the third with the said chief clerk of His Majesty, until such time as proof and trial be had of the said monies, and payment be made to the bringers in of the bullion accordingly, which proof shall be had and made before the deliverance of the said monies, and shall be made in the presence of the said master and worker, comptroller and chief clerk of His Majesty, by the King's assayer for the time being, the same assay to be taken as well of the fineness as of the weight, by such quantity and after such sort as shall be agreed on by the said comptroller, chief clerk, and King's assayer; and after the said monies of gold and silver shall be assayed and proved to be good as is aforesaid, before any deliverance be made of the whole sum, a portion of the said monies shall be taken and put into a box by the said comptroller and King's assayer in the presence of the said master and worker, whereof the assay shall be made before our Sovereign Lord the King from time to time, or such of his Council as have been accustomed or shall be appointed by His Majesty, at Westminster or elsewhere, as it shall please His Majesty or his said Council to appoint; (that is to say) for every journey-weight of gold not exceeding 15 lbs. weight, two pieces, whereof one to be for the pyx and the other to be for the assay; and out of every journey-weight of silver containing 60 lbs. weight, two pieces at least, one moiety thereof to be for the pyx and the other for the assay; and they shall be enscaled with the seals of the said master and worker, comptroller and King's assayer; and the said box shall be shut with three keys, whereof one key shall abide with the said master and worker, and one key with the said comptroller, and the third with the said King's assayer, which pyx shall remain in a chest or room as is aforesaid, and upon reasonable warning thereof given, it shall be opened from time to time be-

Mr. *J. W. Morrison.*

1 June 1837.

fore our Sovereign Lord the King, or such of his Council as shall be by His Majesty appointed, at Westminster or elsewhere, as it shall please His Majesty or his said Council to appoint; and in the presence of the said master and worker, comptroller and King's assayer, there shall be assays made as well of the fineness as of the weight, of the said monies of gold and silver in the said box after the most just manner as can be thought of to be made, by fire, by water, by touch or by weight, or by all or by any of them, to the end that if any of the said monies of gold and silver be found and proved good and convenable after the covenants, orders and agreements aforesaid, the said master and worker shall be quit, excused and discharged against his said Majesty and all his people unto that day; and then the said master and worker, at his will, shall have letters patent of our Sovereign Lord the King, under the Great Seal of the United Kingdom of Great Britain and Ireland to be made for his acquittance, specifying the said assays to be made and found as is aforesaid, in such sort as in ancient times has been accustomed, and without fee therefor paying, for the making which letters patent these presents shall be a sufficient warrant and discharge to the Lord Chancellor or Lord Keeper, or Lords Commissioners for the custody of the Great Seal of the United Kingdom of Great Britain and Ireland for the time being, without any further or special warrant to be issued out for the same; and if it shall be found by the assays that the pound weight troy, thoroughly tried, answereth not the full standard in fineness aforesaid, but shall be worse, but yet within the remedies aforesaid, the lack thereof shall be entered of record by the said comptroller, and a true account thereof shall be made to His Majesty, and the same fully and wholly answered to His Majesty without any profit or commodity to grow unto any person or persons for the same, saving always that in case by the said assay it shall be found that the same monies of gold and silver do pass at any time the said standards or any of them, so as the same be better in fineness or in weight, or in both, than is appointed by the standards, and yet within the remedies aforesaid, then so much to be entered of record and hold place to the said master and worker in the charge which he shall have when any lack shall be found by the said assays under the standard aforesaid; and if it shall happen in the said monies of gold and silver, or either of them, upon either of the just assays as shall be made of the abovesaid boxes in manner aforesaid, be it in weight or in fineness, any default be found without the said remedies ordained for the said master and worker as is aforesaid, or any of them, the said master and worker shall make fine and ransom to his said Majesty, at his will."

2029. Mr. *Hume.*] How often is the pyx taken?—Whenever a new master is appointed we generally make application for the trial of the pyx, or whenever the pyx-box is about full we apply for a trial of pyx, but there is no fixed time for it.

2030. Mr. *Herries.*] It appears that all monies that are coined at the Mint are subjected to trial by an impartial jury, as between the Crown and the subject?—Yes.

2031. Mr. *Hume.*] Two pieces out of every journey?—Yes; one piece is put by for the pyx, the other for the King's assay-master, previous to delivery.

2032. What becomes of those pieces after the trial is made?—After they are released from the pyx-box they are brought to account in the master's general cash account; this I now produce is part of the new trial plate; it must be of equal fineness with that; the remainder of that is in the Exchequer; that is perfectly standard; this is a trial plate of the silver [*producing the same.*]

2033. Mr. *Hume.*] This trial plate bears date October 1829; has that been the plate used by the pyx ever since?—Yes; that is the indented part of it; it is not the part used at the trial, for the Exchequer have the custody of that.

2034. What is the relative fineness to that in 1688?—I believe it is the same.

2035. Who attends the taking the pyxes?—The three officers; the master, or somebody on his part, the comptroller and the King's assay-master.

2036. Have any of the monies so attested been found defective since you have been deputy-master?—None.

2037. Mr. *Goulburn.*] Is there any record in the Mint of any monies having been found defective?—I do not find any instance; Lord Brougham mentioned an instance in the reign of Edward the Fourth, but it appears that the monies were coined quite within the limit, but supposing the monies in weight do not come up to the true weight, that 44 guineas and a half, which should weigh a pound, did not weigh that, then the master of the Mint, at the old trials of the pyx, was obliged

Mr. *J. W. Morrison.*

1 June 1837.

obliged to pay it up; the moneyers now pay it up at the scale; so that if there is any deficiency at the scale that is made up; there was a deficiency of 120 *l.* or 160 *l.* in the case referred to. The master would not pay it, and they put him into prison, but it appeared, upon a calculation of the quantity coined, the monies were coined within the remedy; so that the money was not deficient, but the master was deficient in paying the value he was bound to do.

2038. Mr. *Hume.*] Where is the trial of the pyx held?—At the Exchequer, at Westminster; the last trial took place in Whitehall Yard, where the Exchequer Office now is; after the fire took place, it was tried in Sir John Newport's room, and an assay-office fitted up.

2039. Of whom do the jury consist?—They are selected from the Goldsmiths' Company exclusively.

2040. Are they sworn?—They are sworn by the King's Remembrancer in the presence of the Council.

2041. By what order or rule is it they are so selected from that company?—By custom; the Lord Chancellor is to assemble a sufficient jury, a skilful jury; they select them from the Goldsmiths' Company.

2042. Mr. *Wall.*] The Goldsmiths' Company are not all goldsmiths; are the gentlemen on the jury all goldsmiths?—I believe they are.

2043. Are they all practical goldsmiths?—I believe not; but they have their assayers.

2044. Sir *Thomas Fremantle.*] Is there any form in which the verdict is delivered?—Yes.

2045. Mr. *Herries.*] How are they selected?—The company name them; the Lord Chancellor issues his precept to the Goldsmiths' Company to select a proper jury.

2046. That is addressed to the master and wardens of the company?—Yes.

2047. Mr. *Hume.*] How long does the operation of the pyx take?—The Council assemble generally at 10 o'clock in the morning, and it may last till four o'clock before it is finished, according to the quantity of coinage.

2048. Sir *Thomas Fremantle.*] Is a trial made of every piece?—The whole is weighed and tried, and from the heap they promiscuously take a certain quantity to melt; they melt it into a bar or ingot, a piece is then cut off for the assayer to try; so that it is an average of the whole.

2049. Mr. *Hume.*] Under that trial some of the pieces might be defective?—They are all mixed up in a large heap, and taken out by chance.

2050. They might be on the average, but some of the pieces might be deficient?—I cannot tell how that should happen. They might happen to take those very defective pieces. The assayer runs the risk of that.

2051. Each individual piece is not assayed, but a certain number from the heap taken out by chance and melted, and the average trial made?—Yes.

2052. Sir *Thomas Fremantle.*] Supposing the process of melting was improperly performed, would not that affect the result of the assay subsequently made?—Of course it would if it was improperly made, but we are to suppose the assayer is a skilful person; we are all looking on at the same time, to see that it is melted in the usual way.

2053. Mr. *Hume.*] Will you read a verdict of the jury?—"We whose names are here underwritten, having been sworn this 24th day of March 1836, before the Right honourable the Lords of His Majesty's Most honourable Privy Council at the receipt of His Majesty's Exchequer at Westminster for this purpose, have made the assays and trials of His Majesty's coins in the pyx of the Mint within the Tower of London, and which, according to accounts produced by the officers of the Mint, have been coined in the said Mint from the 31st December 1832 to the 1st July 1834. The Right Hon. Lord Auckland, master and worker, William Henry Barton, Esq., comptroller, and Robert Bingley, Esq., assay-master. We found in and took out of the said pyx gold coins consisting of 1,749 sovereigns or 20-shilling pieces, coined after the rate of 46 *l.* 14 *s.* 6 *d.* to the pound weight troy (pursuant to the Mint indenture, dated the 6th of February 1817, and made between his late Majesty King George 3 of the one part, and the Right Hon. William Wellesley Pole of the other part), and making by tale 1,749 *l.*, and weighing 37 lbs. 3 oz. 5 dwts. 17 grs., but which, at the said rate of 46 *l.* 14 *s.* 6 *d.* to the pound weight troy, should weigh 37 lbs. 5 oz. 3 dwts. 15 grs., and having taken 100 of the said sovereigns, being in tale 100 *l.* and in weight 2 lbs. 1 oz. 13 dwts. 17 grs., did find the same to be, by the assays and trial thereof, agreeable to the standard

Mr. *J. W. Morrison.*

1 June 1837.

trial plate of gold in His Majesty's Exchequer, dated the 31st October 1829. We also found in and took out of the said pyx silver monies consisting of 291 half-crowns, 574 shillings, 651 sixpences, 4 fourpences, 4 threepences, 4 twopences and 12 pence, coined after the rate of 66*s.* to the pound weight troy, pursuant to the aforesaid Mint indenture, the said silver coins making together by tale 81*l.* 11*s.*, and weighing 24 lbs. 8 oz. 11 dwts. 13 grs., but which, at the said rate of 66*s.* to the pound weight troy, should weigh 24 lbs. 8 oz. 10 dwts. 21 grs., and having taken of the said silver coins 16 half-crowns, 40 shillings and 40 sixpences, being in tale 5*l.*, and in weight 1 lb. 6 oz. 3 dwts. 12 grs., do find the same to be, by the assays and trial thereof, agreeable to the standard trial plate of silver in His Majesty's Exchequer, dated the 31st October 1829; and we find that the remedy on the said gold coin in the pyx amounts to 18 dwts. 17 grs., but that their excess of weight is only two grains, so that they are within remedy 18 dwts. 15 grs.; and also that the remedy on the said silver coins in the pyx is 1 oz. 4 dwts. 17 grs., but that their excess of weight is only 16 grains, so that they are within remedy 1 oz. 4 dwts. 1 gr. Finding, therefore, the said gold money and the said several silver monies to be in weight, tale and alloy within the remedies provided by the before-mentioned indenture, under which the said master, the Right. Hon. Lord Auckland, (by His Majesty's warrant dated 23d December 1830) is appointed to act, we do report that, by the assays and trials of the aforesaid gold and silver monies, they are sufficient in alloy, and according to the covenant comprised in the said indenture, to the best of our knowledge and discretions." This is signed by the jury.

2054. Sir *Thomas Fremantle.*] Who takes the verdict?—The Lord Chancellor; they attend him either at the Goldsmith's-hall or in his own court, or wherever he chooses to name.

2055. In whose custody are the trial plates kept?—The trial plates by which the pyx is tried used to be in the custody of the Auditor of the Exchequer; it is now, I suppose, in the custody of the Comptroller of the Exchequer: this I have produced is a counterpart of the one in the Exchequer.

2056. Mr. *Hume.*] The verdict does not report the exact fineness above or below the standard?—No.

Martis, 6° die Junii, 1837.

[*The Committee met at the Mint.*]

MEMBERS PRESENT.

Mr. Thomas Baring.	Mr. Labouchere.
Sir Thomas Fremantle.	Sir Charles Lemon.
Mr. Hume.	Mr. Baring Wall.

THE RIGHT HON. HENRY LABOUCHERE, IN THE CHAIR.

---

6 June 1837.

THE following Statement of the Books and Accounts was laid before the Committee: namely,

— No. 1. —

BULLION and COIN BOOKS kept in the Mint Office (below stairs):—

Books kept by the master, comptroller, King's clerk, and the melter or clerks: namely, Mr. Barton, Mr. Croasdale, Mr. Hill, master's clerk; Mr. Mushet, melter's clerk.

1. The Journal or Waste Book, as kept by the Master, Comptroller and King's Clerk.

This book contains the several importations of bullion brought to the Mint for coinage, and the deliveries of the coin; the receipt and deliveries that pass between the Mint office, the melter and refiner and the moneyers. It shows the mode in which the fineness, according to the assay reports of the several ingots, is calculated, and the standard value of the importation ascertained; for which the master renders himself liable by a mint bill and receipt given to the importer; also the way in which the several ingots (composing the importation) are posted from the journal into the melting or pot book; the standard amount of the ingot pots charged to the melter, and the bullion or ingots (if necessary) supplied for refining. Also the standard bars received from the melter and delivered

livered to the moneyers; the returns of scissel from the moneyers delivered to the melter for remelting; the delivery of the coined monies by the moneyers into the mint office, and the register of their trial at the pyx; and also how the monies are issued to the importer, and the account settled between him and the master.

2. The Pot Book, showing the number and description of the several ingots, with their weight and ratings posted from the journal and set out for each pot, with the alloy or fine metal to be added for the combination necessary to produce the standard in the operation of the melting; the pot book also contains the receipts of the moneyers and melter for the bars and scissel delivered respectively.

The Pot Book is kept by the melter or his clerk, and examined by the comptroller and King's clerk.

3. The Ledgers, which are made up monthly, showing the Dr. and Cr. between the master or office and the importer; the Dr. and Cr. between the office and the melter and refiner; and the Dr. and Cr. between the office and the moneyers, &c.

The Ledgers are kept by the master's clerk, comptroller, and King's clerk.

The subsidiary accounts to the above books are the Pyx Accounts, showing the plus and minus, with reference to the standard weight of the monies delivered into the office by the moneyers, for which they are made Dr. or Cr., the settlement being made when the monies are delivered to the importer.

Kept by Mr. Barton, Mr. Croasdale & Mr. Hill, as declared & registered by the King's assayer, Mr. Bingley

The Tale Books, showing the weight of the monies of silver and copper received from the moneyers, the computed tale, and the amount they actually tell out, stating the plus or minus on the computation, and the amount carried to account.

Kept by Mr. Hill.

The Stronghold Account, showing the stock taken each month, and the balances of bullion and coin remaining; and other accounts which were produced and explained by the clerks to the Committee.

Kept by Mr. Hill. Examined by Mr. Morrison, Mr. Barton, and Mr. Croasdale.

4. The Comptrolment Roll, to be delivered into the audit office, with the master's cash account, showing the weight, value and denomination of the monies coined.

Book kept by Mr. Barton, the comptroller.

— No. 2. —

The Cash and Expense Books kept by the Deputy Master, the Clerk Assistant to Deputy Master, and Second Clerk.

1. The Master-General's Cash Account of all monies received by him for the service of the Mint, and all payments made thereout, as laid before the Commissioners for auditing the Public Accounts at the expiration of each year on the 31st of March, or on the termination of a mastership. This account is made up from the items entered in the current cash-book, quarterly, all the bills and vouchers being examined and certified by the deputy master, comptroller and King's clerk, or other officers of the Board. The several vouchers are entered in the bill-book.

Book kept by W. H. Morrison, assistant clerk to the deputy master, from accounts from the latter.

(*See* Bill Book.)

2. The Cash Journal and Ledger and Service Book, kept by double entry, according to the instructions and forms for the books prescribed in the Report of the Commissioners appointed to inquire into the mode of keeping the Public Accounts, as communicated to Mr. Morrison by Mr. Brooksbank of the Treasury.

Book kept by Mr. Capes, 2d clerk, from accounts from Mr Morrison.

The mode of double entry has only been adopted for the last year's account; no official instructions or communications (with the exception of the Report in question) were made by the Treasury to the Mint on the subject.

The subsidiary accounts annexed to the general cash account are the Bullion and Coin Account, showing the balances that remain with the master at the end of the year. These accounts are laid before the Audit Commissioners with the cash account, being certified by the deputy master, the comptroller and the King's clerk.

Book kept by W. H. Morrison.

3. The Receiver of the Master's Fees, showing the fees accruing to the master's office, and the appropriation of the same to the master's salary, under the Act 39 Geo. 3, to the 5th April last.

By the new Act 7 Will. 4, c. 9, this service and account has now ceased.

Book kept by Mr. Morrison.—This book is exhibited with reference to the last account of the master to 5th April 1837.

Book kept by Mr. Morrison.

4. The Account of the Rates allowed to the Master by the indenture for the carrying on the coinage, and the distribution of the same for the moneyers' and melter's charges by agreement, the fees to the master's office as stated in the last article, and the surplus applied to the contingent expenses.

N.B.—By the new Act this mode of stating this account has now ceased.

Books kept by Mr. Capes.

5. Accounts are opened in the cash ledger for transactions with the Commissariat Department, Paymaster-general, Bank of England, Colonial and other private coinages, &c.

Service Account Book kept by Mr. Capes from accounts by Mr. Morrison.

6. The Purchase of Bullion, Dollars, &c. and Sales of Coin Account.

Book kept by W. H. Morrison, and entered in Service Account.

7. The Profit and Loss Account on the Coinage, showing the grants for carrying on the gold, silver and copper coinages, and for sustaining the loss in calling in the old monies; the gain or seignorage arising on the difference between the purchase price of the silver and copper, and the proceeds from the above in coin at the Mint price, the same being applied in aid of the loss and expenses of the coinage and other contingencies. This account has been made up from 1816 to 31 March 1837, and shows the profit remaining at that period.

Book kept by Mr. Capes in Service Account.

8. Assets and Liabilities, showing at the end of the year or termination of the account the cash, bullion, and coin remaining, and monies due, &c.; and the liabilities thereon for profit or seignorage, debts or other payments, and the balance or excess of assets which, when turned into cash, fall into the general cash account, being allowed by the Treasury to be retained as a fund to meet the current expenses of the establishment after the 5th of April.

Service Account Book kept by Mr. Capes, from account by Mr. Morrison.

9. The Cash Proceeds from the assets, on the payment of the profits to the 5th of April into the Exchequer; these profits having been applied previously to the 5th of April to the purchase of bullion and various expenses of the coinage and contingencies, now altered and regulated by the new Act of 7 W. 4, c. 9.

10. The Master of the Mint's Account at the Bank of England; viz. Exchequer Credit-book and Cash-book.

Mr. Capes.

Imprest-book, Ledger. The mode of keeping the accounts under the provisions of the new Act, with respect to the audit account and purchases, is now under consideration, the mode of double entry in regard to the current receipts and payments being pursued; since the 5th of April, an Exchequer credit has been granted by the Treasury for the purchase of copper, and tenders will be delivered in to-morrow from some of the principal copper companies for the price.

The Committee then proceeded below stairs, to the Office of the Comptroller and King's Clerk, when the several books of the journals, ledgers and pot-book, &c. as described, were exhibited, and the mode of keeping the accounts explained.

The Committee next proceeded to witness an importation of gold bullion for coinage; 100 ingots received from the Bank of England were deposited in the stronghold adjoining the comptroller's office, under the keys of the deputy-master, comptroller, and King's clerk, a small portion having been previously cut from each ingot for the assay by the master's assayer, for determining the fineness of the ingots to be carried into work.

The Committee proceeded to the Assay Office of the master's assayer, to witness the trial of the pieces. The assays being completed, the reports were made out in writing for each respective ingot, and the same, together with the assay pieces, enfolded in the report papers, were delivered by the master's assayer into the office.

The ingots were then removed by the bullion porter from the stronghold into the office of receipt, or weighing office, where the Committee proceeded to see the weighing.

The weigher and teller, the comptroller, the King's clerk, the master's clerk and melter's clerk, the bullion porter and other assistants, with two of the cashiers, on the part of the Bank of England, as the importers, attended.

The weigher and teller read over the assay reports of the ingots, which were taken down and entered in the respective books of the master, comptroller and King's clerk, and the melter, and also in the Mint bill to be given to the importer.

The

6 June 1837.

The ingots were then weighed, severally, and the weight of each ingot being called by the weigher and teller as it was weighed, was entered upon the books of the officers mentioned, and the fineness on rating according to the assay report immediately computed from the rating-books or tables constructed for that purpose; and the calculations of the said officers agreeing, the amount was placed in their books against the weight of the ingot; if better, on the left side; if worse, on the right.

The whole of the ingots being gone through, and the standard value of the importation ascertained, the Mint bill and receipt testifying the same, were signed by the deputy-master, being witnessed by the comptroller and King's clerk, and given to the importer, entitling him to receive an equal amount in value of standard coin.

The ingots were then returned into the stronghold, under the same keys, to remain there until the pot-book was made up for their delivery into the melting-house.

For this purpose, the melter or his clerk enters from his journal into the pot-book a certain number of ingots, to make up the pot of a given weight with the alloy or fine metal to be added to produce the standard. This book is examined by the comptroller and King's clerk, and must be signed by them before the ingots are delivered to the melter.

The Committee ordered that the necessary preparations for the melting should be made for their next meeting at the Mint, on Tuesday the 13th instant, when they would inspect the operations of the melting-house, and the processes of the coinage in the moneyers' department.

The Committee returned upstairs to the master's room, when the several cash and expense books were laid before them for their inquiry into the mode of keeping these accounts.

Martis, 13° die Junii, 1837.

[*The Committee met at the Mint.*]

MEMBERS PRESENT.

Mr. Clay.	Mr. Labouchere.
Mr. Ridley Colborne.	Sir Charles Lemon.
Sir Thomas Fremantle.	Mr. Parker.
Mr. Goulburn.	Mr. Pattison.
Mr. Herries.	Mr. Warburton.
Mr. Hume.	

13 June 1837.

THE Committee proceeded to the Melting-House to witness the operation of the melting of the gold ingots.

The Pot Book, showing the ingots and alloy set out for each pot (as already described), was exhibited to the Committee.

The several ingots, according to the pot book, were charged into the melting-pot in the furnace, under the inspection of the surveyor of meltings; and the copper used for the alloy was also weighed by him, and charged into the pot under his survey. Two of the pots being in fusion were poured off in the presence of the Committee, and cast into bars of the proper dimensions for the monies to be coined. From the melting of each pot certain pieces were taken by the surveyor of the meltings, and folded in papers properly registered, to be tried by the King's assayer to prove the standard of the metal. The bars were then deposited in the melting-house stronghold, under the keys of the melter and surveyor, until the report of the King's assayer should be made.

13 June 1837.

The Committee then proceeded to the King's Assay office, to witness the trial of the pieces from the meltings by the King's assayer.

The several processes for the assay of the gold having been inspected by the Committee, and the pieces from the meltings found to be standard, the King's assayer delivered his report in writing into the mint office to the comptroller, permitting the bars to be delivered to the moneyers.

The bars having been passed to the moneyers through the mint office, the Committee proceeded to inspect the different work-rooms and processes of coinage in the moneyers' department.

1. *The* 30-*Horse Engine and Rolling Mill*:—The bars were here annealed and passed through a succession of rollers until they were reduced to nearly the thickness required for the particular denomination of the monies.

2. *The Drawbench and Machinery*, where the bars or fillets from the rolling-room were adjusted to the exact thickness of the coin.

3. *The Cutting-out Room and Machinery*, for cutting out the blank pieces for the stamping of the different monies.

4. *The Sizing Room*, for weighing each of the blank pieces before they are passed into further work.

5. *The Annealing Room*, where the pieces are annealed or softened by heat for the stamping.

6. *The Pickling Room*, where the pieces are boiled in a weak acid to restore their colour after the annealing.

7. *The Drying Room*, where the pieces from the pickling room are shaken and dried in sawdust, &c.

8. *The Marking Room*, where the pieces are rounded on the edge.

9. *The* 16-*Horse Engine* applied, the drawbench, cutting out, and the other machinery described.

10. *The Coining Room, and* 10-*Horse Engine*, with the machinery and apparatus for working the presses for the stamping of the monies.

N.B. The coining presses and dies on the presses are under the survey of the surveyor of the money presses, who is to take care that no faulty dies are used, and the presses locked up when not at work.

The monies being coined were delivered by the moneyers into the mint office in bags, or journeyweights of 15 lbs. each, to be pyxed.

The Committee proceeded to the mint office to witness the trial.

The King's assayer, the comptroller, the King's clerk, and master's clerk, the weigher and teller and porters and assistants attended.

Forty-seven gold sovereigns, which should weigh 1 lb. 0 oz. 1 dw. $9\frac{8}{10}$ gr. were told out (in a machine constructed for the purpose) by the weigher and teller, and delivered to the King's assayer to weigh. Having tried the same by his balance, he declared the weight of the pieces above or below the standard, which is immediately entered by the clerks in the pyx accounts. Two pieces were then taken by the comptroller and weighed in his scale; one piece was delivered to the King's assayer to be tried by him, and the other sealed up by the deputy master, comptroller, and King's assayer, and deposited in the pyx-box under their keys, for the public trial at Westminster. The money was then locked up in the mint office stronghold, under the keys of the deputy master, comptroller, King's clerk and moneyers' key, there to remain until they were reported by the King's assayer to be proper to be delivered.

Jovis, 15° die Junii, 1837.

MEMBERS PRESENT.

Mr. Clay.	Sir Charles Lemon.
Sir Thomas Fremantle.	Lord Viscount Lowther.
The Right Hon. Henry Labouchere.	Mr. John Parker.
Mr. Hume.	Mr. Baring Wall.

THE RIGHT HON. HENRY LABOUCHERE, IN THE CHAIR.

Mr. *James Sharp* and Mr. *George Anthony Sharp*, called in; and Examined: and Mr. *G. F. Matthison*, Mr. *J. W. Morrison* and Mr. *Jasper Atkinson* further Examined.

Messrs. *J. & G. A. Sharp*, *G. F. Matthison*, *J. W. Morrison*, & *J. Atkinson*.

15 June 1837.

2057. *Chairman*, to Mr. *J. Sharp*.] WHAT is your profession?—A bullion broker and jeweller.

2058. How long have you been engaged in that business?—About four years as a jeweller; in the bullion department, about 20.

2059. Are you an importer of bullion as well as a broker?—Not at all.

2060. You are a partner in the house by whom a letter was addressed to the Treasury, dated the 1st of April, which has been referred to this Committee?—Yes.

2061. You complain in that letter of a delay which took place in coining 20,000 *l.* worth of bullion which you lately sent to the Mint?—Yes.

2062. Will you have the goodness to make to the Committee any additional statements upon that subject which you are desirous of laying before them?—I should state that it was a material object to us to be able to return the amount of the bullion as speedily as possible to the importers; and to accomplish that object, held out by Acts of Parliament, we were desirous to ascertain the fact by a trial, apprehending that the loss of interest of the money would render the operation unprofitable.

2063. How long a period of time elapsed between the time that you sent the bullion to the Mint and the time when it was returned to you in the shape of coin?—On the 1st, 2d and 3d of February the gold was deposited at the Mint in ingots; and the returns were, part on the 18th, a further part on the 22d, a further part on the 1st of March, and the balance on the 10th of March.

2064. So that it was altogether a period of 35 days before you received the whole of the coin?—Yes.

2065. What is the calculation which you made of the loss occasioned to you by that delay?—The balance, at the current rate of interest, was 25 *l.*, or somewhere thereabouts.

2066. The 25 *l.* was the net loss on the whole operation?—The net loss upon the whole operation.

2067. The interest of the money during that time would have been more than 25 *l.*?—The interest would have been 63 *l.*, had there been no advantage in the coinage.

2068. What advantage in the coinage do you allude to which made up for the loss of interest to a certain extent?—It is a small difference in the assay between the quality of the gold deposited and the quality of the sovereigns received back.

2069. To what extent did that operate in reducing the loss of interest?—That reduced the loss of interest 37 *l.* 5 *s.* 3 *d.*

2070. Leaving the net loss 25 *l.*?—Leaving the net loss 25 *l.*

2071. Mr. *Hume*.] Is the loss of 25 *l.* 15 *s.* the only complaint you make, or do you consider the lapse of time also an inconvenience attending such operations?—I consider the lapse of time equivalent to loss of interest.

Messrs. *J. & G. A. Sharp, G. F. Matthison, J. W. Morrison, & J. Atkinson.*

15 June 1837.

2072. But only as far as the interest is concerned?—It is a matter of opinion, as far as the interest is concerned.

2073. Mr. *Wall.*] In how short a period could that quantity of bullion have been returned in money, if the Mint had used expedition?—I must refer to the authority of the Mint to answer that question.

2074. *Chairman.*] Have you any reason to believe that this bullion could have been turned into coin at the Mint in a shorter period?—I have reason to think so, from a conversation that took place at the Mint during the operation. My brother, who chiefly attended, heard from a gentlemen in the moneying department that it was possible to coin that money in a considerably shorter time.

2075. That observation referred only to the moneying department?—I apprehend so.

2076. You are probably acquainted with the system on which the Mint is conducted?—Partially. I can scarcely say how far that knowledge goes, for my brother generally attends the Mint.

2077. Have you formed an opinion that, consistently with proper security to importers of bullion and the public, a shorter period of time might be taken in coining bullion than is at present usual in the Mint?—Certainly.

2078. Will you have the goodness to state to the Committee what are the grounds upon which you express that opinion?—I know that the assay does not occupy much time; I know the melting does not occupy much time; and I have heard my brother repeat, from information he has received from one of the gentlemen in the moneyer's department, that the moneyers do not cause much delay.

2079. Do you think ten days would have been about a fair time for the Mint to have taken, in the instance you have mentioned, in returning to you your 20,000 *l.* in the shape of coin?—I think that is a full allowance of time.

2080. Have you any acquaintance with the time which any of the mints in foreign countries take in coining bullion into money?—I have not.

2081. Mr. *Hume.*] From what you have stated, are we to understand that in your opinion the coinage ought to be made in a shorter time than that of the experiment that you tried?—Certainly.

2082. Now if the money had been returned to you in 10 days instead of 35, would you not have had a profit by the coinage instead of a loss which you suffered?—Undoubtedly.

2083. There being three parcels of gold, are you able to state whether they were all the same kind of ingots, or different qualities of gold?—From my recollection, they were all the same kind of ingots.

2084. To Mr. *G. A. Sharp.*] Supposing there were three different assays made for the three deliveries, what time would have been taken up in making those assays?—There were three deliveries: in the first, there were 13 ingots; in the second, five ingots; and in the third delivery, six ingots.

2085. To Mr. *J. Sharp.*] Might not each of these deliveries have been assayed at the same time, and in the same furnace?—Certainly.

2086. And might not the five and the six ingots in the two subsequent deliveries have been assayed also in one furnace?—Certainly.

2087. The gold delivered on the 1st of February you would have returned and assayed on the 3d?—Yes, the third day.

2088. It would take three days?—Yes.

2089. Are you aware, from your own experience, of the time that ought to be consumed in melting?—I should assume, from the experience that I have had, that not a longer time would be requisite.

2090. Do you assume that, upon the supposition that each of the deliveries was sufficient to set the machinery going?—I am not able to say.

2091. *Chairman.*] Did you send the 20,000 *l.* worth of bullion all at once to the Mint, or at different times?—At three different times.

2092. Do you not apprehend that to have been an additional cause of delay?—I think not. If nothing had been done till the third delivery, the whole might have been done more expeditiously than by being taken separately.

2093. Was the Mint aware that you were going to send the other deliveries when you sent the first?—I apprehend so. We gave notice that we should send about 20,000 *l.*

2094. Supposing you had sent a very much larger quantity than 20,000 *l.* worth of bullion, do you apprehend any greater delay could have taken place in turning

it

Messrs. *J. & G. A. Sharp, G. F. Matthison, J. W. Morrison, & J. Atkinson.*

15 June 1837.

it into coin?—I apprehend there would have been less delay, for there would have been a sufficient quantity to set the machinery at work.

2095. Therefore you conclude from that that our Mint system is rather adapted to large coinages and large importations than to small coinages and small importations?—I apprehend so.

2096. Mr. *Hume.*] Did your brother attend at the Mint-office after the first paying in?—Yes, repeatedly.

2097. Was that to witness the weighing after the melting, or to inquire about the coinage?—Merely to inquire about the coinage.

2098. Are you aware of the time the bullion is detained in the Mint during the assays that are going on?—I am not conversant with that.

2099. *Chairman.*] Do you attribute the delay of which you complain to the extensive scale of the machinery of the Mint, or do you think that, without any alteration in that respect, by due diligence in the different departments of the Mint, greater expedition might be effected?—I think the machinery is quite ample to give greater facility or greater speed.

2100. But in a former answer you stated that you thought the great scale of the machinery was in itself a cause of delay when applied to very small sums; do you think, without making any alteration in that respect, that by due diligence in the different departments of the Mint greater expedition could be used?—I think so.

2101. Without reducing the scale of our Mint system or of our Mint machinery?—I think so.

2102. What are your reasons for forming that opinion?—I first ground my opinion upon the weight that is required by the Mint to set the machinery at first in operation, which is 10,000 *l.* You are required to send at least 10,000 *l.* to commence the coinage; I think that is the power the Mint require to set their own machinery in motion. We can get the gold back in a very short time by taking the balance away, and selling it in the market at once.

2103. Mr. *Hume.*] You mean the scissel?—Yes, the scissel.

2104. Instead of recoining the scissel?—Instead of recoining the scissel.

2105. And was it on that account that your first delivery amounted to 10,000*l.*?—On that account.

2106. *Chairman.*] At one time it was the practice of the Mint to give in coin to the importer a part of the value of the bullion immediately on the bullion being brought to the Mint, was it not?—It was.

2107. Was that considered a great accommodation by the trade?—Certainly; it was a great accommodation.

2108. Mr. *Hume.*] How long was that practice continued?—Several years, I apprehend; I think it was three or four years, or probably longer.

2109. Did you, as importers, then avail yourselves of that opportunity to send in any for coinage?—Yes, we did.

2110. And you considered that accommodation an encouragement for coining?—Undoubtedly.

2111. Since that convenience was withdrawn, have you ever sent any to the Mint to be coined before this delivery in February last?—I think not; I cannot recollect any instance.

2112. Did you desist from that in consequence of the supposed loss by the late delivery of the coin after importation?—Yes.

2113. *Chairman.*] The delay which you have stated to take place in the coinage of the Mint produces the same effect, does it not, as would be produced if a slight charge was made for brassage?—Unquestionably; in proportion to the delay.

2114. If it were not for this charge, do you not think it would be likely that bullion would be brought to the Mint, and coined, not for the purpose of circulation in this country, but for the purpose of being exported in the shape of coin rather than in the shape of ingots?—I think that is a very doubtful point, for the mints in foreign countries give to the possessors of ingots perhaps the same advantage as they derive in the Mint in England.

2115. Are you quite certain that the mints in foreign countries give the same advantage as is given by the Mint in this country?—I have a strong reason for that opinion, that the buyers of gold always prefer ingots to sovereigns.

2116. But if gold could be coined into sovereigns without any charge, direct or indirect, and even with a small profit, as it appears from the statement which you have made to the Committee would be the case if there were no delay, do you not

Messrs. *J. & G. A. Sharp, G. F. Matthison, J. W. Morrison, & J. Atkinson.*

15 June 1837.

not think there would be some risk of having the bullion coined at the English Mint, of having it turned into sovereigns, and that those sovereigns would bear in the foreign bullion market a better price than the ingot?—I think there might be this advantage, that the holder of the gold might either have the sovereigns to put into circulation, if he wanted the money in this country, or he might have the ingots to send abroad.

2117. Mr. *Hume.*] Are we not to understand that if he had those facilities of coinage he could either sell it for exportation, or pay it away in England, as he found most beneficial?—Yes, that is the advantage, that he would have the power of doing either.

2118. Would not that tend very much to give facilities to the trade in bullion which at present do not exist?—Certainly.

2119. If you had the advantage of obtaining the value of your importation in ingots from the Bank, on the third day, in sovereigns, what allowance could be made, do you think, to the Bank for the coinage?—I should say from a 32d to a 16th per cent.

2120. *Chairman.*] Under the present system, if it is wanted to export gold abroad, would it be sent in coin or in ingots, do you suppose?—In ingots.

2121. If the alteration which you suggest were made, of coining bullion at the Mint without any charge, direct or indirect, upon it, do you not think it likely that instead of exporting gold in the shape of bullion, it would be exported in the shape of coin?—It is doubtful; I cannot answer that question positively.

2122. At any rate, the probability of that being the case, would be greatly increased, would it not?—Certainly.

2123. Mr. *Clay.*] Supposing the value of standard gold, whether coined into money or in bars, was the same, do you think that a merchant having that standard gold to export, would not prefer to export it in the shape of sovereigns rather than in the bar?—He would compute which would return him the best profit.

2124. How could there be a difference in the return, when the question assumes that both shall be of the same intrinsic value?—It also assumes that they are of equal value in the country to which they are sent.

2125. Can there be a difference in that country, when the very question assumes that the standard is the same?—It is not the same in that country; there are times when ingots are more valuable than coin, and other times when the coin would be more valuable than ingots in foreign markets.

2126. Will you bear in mind that we are assuming an ingot of precisely the same value and alloy as a sovereign; is there in such case any conceivable use in any country to which the ingot could be put, to which the sovereign could not equally be applied?—Yes, on this account, that a merchant may give his correspondent an order to send him ten ingots of gold, and sovereigns would not answer the purpose; he must send ingots.

2127. But if that correspondent were assured that the ingot and the sovereigns were precisely of the same standard, in that case, would not the sovereigns answer the purpose?—The sovereigns would be objectionable, from the necessity of having a remelting and re-assay. They trust no countries to assay for each other; they would assay it again.

2128. Would they not equally have to assay the ingot?—The assay is an objection to the ingot, as I mentioned.

2129. Does not that objection apply equally to the ingot before it can be put to any use?—It is not remelted; it does not require remelting.

2130. Can any use be made of the ingot before it is remelted?—Many countries will take it as an ingot upon the assay.

2131. Is it your opinion, then, that there are countries of which the mint officers would take an ingot upon the assay which it might have undergone, and would not take the coin of the British Mint upon the well-known assay of the British Mint?—I would appeal to the fact that they would not take it at the same rate. At the present moment there are buyers of gold at a price of 3*l.* 17*s.* 10½*d.* who prefer ingots at that price to taking sovereigns.

2132–3. What is the standard of the ingot so preferred?—I presume the ingot to be standard; the standard of England. Mr. *G. A. Sharp.*] The objections to coin are these; there is a great deal of trouble in counting it, and two or three of them might be bad.

2134. Sir *Charles Lemon,* to Mr. *J. Sharp.*] Is there not the same inequality in different parts of the same bar as between different sovereigns?—I think not.

2135. Mr.

Messrs. *J. & G. A. Sharp, G. F. Matthison, J. W. Morrison & J. Atkinson.*

15 June 1837.

2135. Mr. *Hume.*] What is the practice in the trade, in taking ingots of gold at given and known assays delivered with them, in different countries?—I conceive the advantage to the taker of the gold to be a small difference in the assay. To put the case clearly, if you melt 100 sovereigns and get them assayed, they will not be reported as full standard; whereas if you get a bar, you have got the assay, you have got the quality on that bar.

2136. Do you consider that that loss or inconvenience in melting sovereigns would be sufficient to prevent the export of coin instead of ingots, as a general rule?—It is a part of the objection.

2137. Mr. *Clay.*] The Committee understand you to have said that at the present moment there are parties in the market who will purchase bar gold at 3 *l.* 17 *s.* 10 ½ *d.* an ounce; has that state of the market occurred frequently in your recollection?—Very frequently.

2138. Does that agree with the printed price currents?—Yes, the price currents are printed.

2139. But do not the price currents, which the public have had an opportunity of consulting for years, show that the price has been 3 *l.* 17 *s.* 9 *d.*?—That is the price printed from the Bank, from which you may infer the Bank will not give more.

2140. Within the last 10 years have there occurred many occasions when a person possessing gold in the market could sell it for 3 *l.* 17 *s.* 10 ½ *d.*?—Very often. I have sold gold within this month or six weeks, three or four separate parcels of gold, at 3 *l.* 17 *s.* 10 ½ *d.* per ounce, standard, the price being quoted on change as only 3 *l.* 17 *s.* 9 *d.*

2141. Recurring to your experience since the year 1821, has such a state of things occurred frequently?—Yes.

2142. How frequently can you state to the Committee that that state of things has occurred within your own knowledge, that gold in ingots would sell for 3 *l.* 17 *s.* 10 ½ *d.* an ounce?—Very frequently; but I cannot state the number of times.

2143. Mr. *Hume.*] Has it been every year from that period?—I think so, undoubtedly.

2144. Mr. *Clay.*] How does it happen then that so much gold is sold to the Bank for 3 *l.* 17 *s.* 9 *d.*?—Other persons are often buyers of it at 3 *l.* 17 *s.* 10 ½ *d.* when the Bank will only give 3 *l.* 17 *s.* 9 *d.*

2145. The amount purchased by the Bank within that period, namely, 35,000,000 *l.*, exceeding so beyond comparison the amount sold in the market, other than to the Bank, within that period, how do you reconcile that with your statement that gold bullion has frequently been sold for 3 *l.* 17 *s.* 10 ½ *d.*?—I should say many sellers of gold have not known where to go to get 3 *l.* 17 *s.* 10 ½ *d.* A few days ago a house sold it to the Bank for 3 *l.* 17 *s.* 9 *d.* within a few minutes of my offering them 3 *l.* 17 *s.* 10 ½ *d.*; that was the Messrs. Rothschild.

2146. What proportion do the sellers in the market to other customers than the Bank of England bear to the sellers to the Bank of England?—It is not easy to answer that question with precision, but the Bank buy infinitely more than all the other customers put together.

2147. Mr. *Wall*, to Mr. *G. A. Sharp.*] Can you state what the difference of the market price is between coin and bullion?—At one time there is a demand for sovereigns for America; at another, there is a demand for ingots in Holland; in one case one is preferred, and in the other the other, when the price is the same.

2148. Can you state what are the comparative quantities of gold sold in one year in bullion, as compared with coin?—No; I do not think any one can.

2149. Mr. *Hume*, to Mr. *J. Sharp.*] You have stated that the Bank is the great purchaser of gold?—Yes.

2150. Does it frequently occur that there is great difficulty in selling small quantities of gold?—I think not.

2151. Then does not the difficulty of having gold coined in quantities less than 20,000 *l.* prevent the holders of small quantities sending them, and oblige them to sell the gold to the Bank, or sell it for exportation?—It obliges them to sell it to the Bank.

2152. If the accommodation was afforded to the public, of returning sovereigns for gold, in any period less than ten days, would not a great portion of the gold which is now sold to the Bank by merchants or importers, be delivered to the Mint for coinage?—I think so.

Messrs. *J. & G. A. Sharp, G. F. Matthison, J. W. Morrison, & J. Atkinson.*

15 June 1837.

2153. Would not that in reality be a great encouragement to the coinage of gold, as held forth by the Act of Charles 2, to which you allude?—Certainly.

2154. Does not the impossibility of coining a smaller sum than 10,000 *l.*, which is, as you have stated, the amount requisite to put the Mint machinery in motion, virtually prove an impediment to the increase of the gold coin of the realm?—Certainly.

2155. Is the Committee to understand that it would tend very much to facilitate commercial transactions in bullion, if merchants had the option of so exchanging small quantities of bullion for coin, instead of selling it to bullion merchants, or to the Bank?—Yes, certainly.

2156–7. Is there any other mode by which a merchant importing from the coast of Africa, or any other part of the world, small quantities of gold, can get rid of it, than that of taking the price offered by the Bank?—I think not. Mr. *G. A. Sharp.*] Unless there is a demand from some private merchant who might give three halfpence an ounce more than the Bank give, and then there would be that facility offered to the importer.

2158. *Chairman.*] Is not the demand for small quantities of gold in the London market pretty regular?—Certainly not.

2159. To Mr. *J. Sharp.*] Do you believe there is any mint in the world conducted on the principle of coining gold with no deduction or charge, direct or indirect, to the importer, of any kind whatever?—I think not.

2160. Mr. *Hume.*] You have been asked a question respecting the value of gold as compared with sovereigns; what is the greatest reduction from the price of 3*l.* 17*s.* 10½*d.*, which you have ever known gold sell for?—I think, 3*l.* 17*s.* 6*d.*

2161. Was that the case when the Bank had 10,000,000*l.* or 11,000,000*l.* in its coffers, or at what period was it?—I cannot answer that precisely; it was some years ago.

2162. If merchants had the facility of getting the sovereigns in the way that has been pointed out, within 10 days, would not the importing merchants be always sure of having the full price for their gold?—Certainly.

2163. At present is the Committee to understand that there may be a reduction in the actual value of gold according as the demand for that article may be?—Certainly.

2164. But if small quantities of gold could be sent to the Mint, and coined at a small expense, that could not arise?—No.

2165. You have been asked a question respecting the quality of the gold at the top, the bottom, and the middle of the bar; what is your experience on that subject?—I have never found gold ingots objected to from any difference in the quality of the gold contained in the same ingot.

2166. As you have been upwards of 30 years in trade, will you state what alteration has taken place in the melting of gold and silver bars since that time, previous to their sale to the Bank?—My experience does not go beyond 21 years, and I could not very easily call to mind the changes that have taken place; there have been considerable changes, but always reductions for the advantage of the importer.

2167. At the present moment does the Mint receive gold that has been melted and assayed by yourself, Mr. Johnson, or any other of the refiners or melters in London?—There are but one or two melters; I am not a melter nor an assayer; I have nothing to do with either; the Mint only receives ingots melted by Messrs Brown & Brind, or any other melter whose skill is satisfactory to the officer of the Mint who takes them in.

2168. Have you had any dealings with the Bank in selling them bullion?—Never, directly; a great many indirectly, but never directly.

2169. Do they, in point of fact, receive or buy any bullion that has not been melted or assayed by Brown & Brind?—Messrs. Brown & Brind are not assayers, but the Bank have received gold melted in foreign countries.

2170. On what occasions have they done so?—On importations from France and Russia, the Bank have bought gold melted by melters in those countries.

2171. Without the assay of the Mint?—They have always had the assay, that is, to establish the quality; the melting is quite another thing.

2172. Do they now receive gold from any other melters?—They do not, I believe.

Messrs. *J. & G. A. Sharp, G. F. Matthison, J. W. Morrison, & J. Atkinson.*

15 June 1837.

2173-4. Since what period has that been?—For some years, I believe. Mr. *G. A. Sharp.*] If a bar comes from abroad, and is melted carelessly, one end may be better than another, and therefore the Bank will not take bars till they have been melted by Brown & Brind; and then the assay afterwards shows the quality of that bar.

2175. They took in from another company, without having been melted by Brown & Brind, and refused yours, did they not?—Yes.

2176. Why was that?—Because they thought I was the seller of it; they wished to keep all the bullion business in the hands of their own broker.

2177. What did you do in consequence of their refusal; was the bullion taken back, or what steps were taken?—The facts were made known to the sellers of the bullion, and to save further trouble, they ordered me to have it remelted at Brown & Brind's; and that being done, the Bank took it without further objection.

2178. Do you know whether the Brazilian Mining Company now sell any to the Bank without being so melted?—I do not know.

2179. To Mr. *Matthison.*] What is the practice of the Bank of England with respect to purchasing bullion; do they require it to be melted by one particular house, or what is the rule?—They require it to be melted by one particular house.

2180. How long has that been the case?—Much longer than I can remember.

2181. Do they send all the ingots so melted to be assayed before they purchase?—Yes; they take the assay before they close the transaction, or before they can make a computation to render up an account.

2182. You believe that no bullion is received by the Bank without being remelted by Brown & Brind?—Or by me; they have made an exception in my favour.

2183. Since what period?—Since 1829, when I had transactions with them as a refiner; the first gold that I took to them, which had been extracted by me out of silver, they refused to take: I made a remonstrance to the Governor, and an order was given to make an exception in my favour.

2184. In what year was that?—In 1829.

2185. Was that in the form of a letter?—No; I believe it was a verbal communication.

2186. Did you make any complaint then?—There was no complaint. When I took the gold to the bullion-office, they said, "We have no authority to receive it unless it is melted by Brown & Brind." I said, I thought there ought to be an exception made. I stated the facts to the Governor, and he said, "As we employ you to refine, we ought to make an exception in your favour; the only object of a monopoly in the melting being a guarantee to the Bank that the gold shall be good, so that there shall be no dispute afterwards respecting assays at the Mint."

2187. Have any objections been made by the Mint authorities to any of the bullion purchased by the Bank, as being brittle or not sufficiently tough?—Yes, I stated that in my former evidence.

2188. Was that at the period you allude to?—No; subsequently. It was during the mastership of Lord Auckland that a large quantity of brittle gold was brought into the Mint, which had been melted abroad, and not by Brown & Brind, and the consequence was that the Mint was put to heavy expense.

2189. Were not those bars of fine gold?—Yes.

2190. How then could they be brittle?—Because they were badly refined; some small particles of lead were left in them.

2191. *Chairman.*] Would any objection be made at the Mint to the receipt of ingots that had not been melted by Brown & Brind?—I never made any objection, provided I had inspected them beforehand.

2192. If you were assured that they were melted by a respectable melter, no objection would be made at the Mint to the receipt of bars not melted by Brown & Brind?—It would be matter of consideration: if they came from an unknown quarter I should try them.

2193. Though greater caution would be exercised in the Mint, there would be no refusal to receive them?—No. During the time when large quantities of gold were imported from France, as an accommodation, they were received without any previous melting, but they were always inspected and tried by me beforehand, so that there was a warranty that there would be no mismanagement afterwards during the coinage.

Messrs. *J. & G. A. Sharp, G. F. Matthison, J. W. Morrison, & J. Atkinson.*

15 June 1837.

2194. Now, with regard to the delay arising in the coinage at the Mint, can you state to the Committee in what time the operation alluded to by Mr. Sharp could have been performed?—It would take me as long to melt 10,000 *l.* worth of gold as 100,000 *l.*; it is a day's work equally.

2195. Do you know whether, in fact, that operation of the 1st, 2d and 3d of February was done in one day's melting?—Generally speaking it is melted the day after I receive it; I receive it one afternoon and melt it the next.

2196. Is there any reason why what you receive should not be melted in three days?—No, I think not; but as I stated in my former evidence, it is a matter for the assayer to determine; it must depend upon the amount of work he has.

2197. To Mr. *Atkinson.*] What is the ordinary delay after receiving money from the melter before you deliver it in coin?—We have no delay whatever, for the moment we receive bars we put them into operation; and in many instances, particularly in that importation of Mr. Sharp's, I received the gold at two o'clock in the day, and it has been coined by about half past seven in the afternoon.

2198. Are you able to deliver the coin on the second or third day after you have received the bullion?—Yes; if I received gold at 10 o'clock in the morning, I could deliver some 40,000 or 50,000 sovereigns by the next morning at 10.

2199. To Mr. *Morrison.*] Can you explain this at all?—The moneyers have the coin ready; that must be tried, and certain days are appointed by the King's assayer for those trials. We do not hold a trial of pyx every day; we consider that we ought to have a sufficient quantity of coin for the assayer to light his furnace, and a very small quantity is hardly worth the ceremony.

2200. Take 20,000 *l.*, for instance?—Then it must be done directly.

2201. Can you state why it was that Mr. Sharp's 20,000 *l.* took 35 days in completing?—We generally have our pyx days on the Tuesday in the week.

2202. Is not the assayer always in attendance in the house?—Yes; but he may have other things to do.

2203. What other things, besides assaying the gold that comes in?—He may have much employment; there may be silver going on, and there may be assaying bars melted from the melting-house. If we held a pyx every day, then the moment the moneyers were ready we should pyx it.

2204. And why do you not hold a pyx every day?—I do not know that that would make any very great difference. Suppose Mr. Sharp was to receive 2,000 *l.* or 3,000 *l.* on the Monday, is it not the same thing if he receives 6,000 *l.* on the Tuesday, by having more coin brought in from the moneyers?

2205. The question is, why should not the pyx trial be made every day as well as weekly?—They must consult the convenience of the assayer; he may not be able to hold a pyx every day.

2206. Are you able to say that the assayer is not able to make assays of all that the melter can melt?—It depends on the quantity the melter may melt; if he may melt 100,000 *l.* in a day, the assayer cannot assay it all in one day.

2207. To Mr. *Matthison.*] How many assays are necessary for 100,000 *l.*?—There are two assays for 5,000 *l.*; that would be about 40 assays.

2208. To Mr. *Morrison.*] Can you state how many copples there are in each furnace?—I do not know exactly; but I have heard about 30.

2209. How many assay furnaces are there in the office?—Several.

2210. Is there no reason why they should not all be going?—I suppose, if they were, more hands would be wanted.

2211. *Chairman.*] Do you mean to say that the principal impediment to greater rapidity is the time occupied by the processes of the assay department?—It occupies a considerable time; because, after Mr. Atkinson has delivered the coin, it generally takes two days.

2212. There being three separate assays to be made on each quantity of bullion, is there any reason why this should not be done in three separate days?—He generally assays the whole of the melting at once: the pieces from the melting-house are delivered to him, and he makes up as many as his furnace will hold.

2213. Is there any reason why he should not assay daily the quantity that is melted daily, in order to prevent delay?—I believe he generally does. Suppose he receives it late in the day, say at three or four o'clock, he does not light his fires till the next morning.

2214. Are you not aware that in the Mint, assays have been carried on till midnight?—I dare say; but those are extra hours; we do not consider that those are working hours; generally, offices close about four, five or six o'clock.

2215. Are

Messrs. *J. & G. A. Sharp, G. F. Matthison, J. W. Morrison, & J. Atkinson.*

15 June 1837.

2215. Are you not aware that private assays go on after public hours?—I have heard so.

2216. Do you not know so?—I have heard so. I do not attend in the assay-office myself.

2217. If he is able to do private assays, is there any reason why he should not previously do the public assays?—He would do it instantly, if they were in a hurry; but on this occasion Mr. Sharp said there was not the least reason to go out of the usual course. The Bank too had gold in the Mint at the time, and we were obliged to get rid of that first.

2218. Is the Committee to understand that the time taken for the process in Mr. Sharp's importation is about the average time taken?—I suppose it is.

2219. Do you not think that it would be possible to abridge in some way this time, consistently with the public security and the public interest?—I really hardly know. When we have got a large quantity of bullion in the Mint, we go on as regularly as possible, like a piece of clock-work.

2220. Could you not somewhat modify your arrangements, which may be very proper with respect to dealing with large quantities of bullion, and by some modification, when you have to deal with smaller quantities, expedite the delivery of the coin in those instances?—An account could be rendered how long 10,000 *l.* worth of bullion would take coining.

2221. When there has been the greatest pressure upon the Mint, and it has been thought of importance that the bullion should be turned into coin in the shortest possible space of time, how soon have you been able to do it?—The Bank, on one occasion, were in a great hurry, and sent us new guineas that never had been in circulation; these were brought into the office, and passed into the melting-house, and had not the intermediate assay of Mr. Bingley. As soon as the pot was melted, the bars went down to the moneyers, and that was delivered in a very short time. Mr. *Atkinson.*] At ten in the morning we had the bars, and at ten at night 47,000 sovereigns were struck.

2222. To Mr. *Morrison.*] In that case you dispensed with some of the usual checks?—If it had been old coin, we could not have done so; we did dispense with them on that occasion. The Master of the Mint came down to me, and said he would take the risk of passing the new guineas without any intermediate assay.

2223. When there has been a great pressure upon the Mint of a similar description, to coin ingots in the shortest possible space of time, how soon have you been able to do it?—I cannot call to mind any instance just now, but I could refer to the books and give the Committee that information.

2224. Will you refer to the books, and furnish the Committee with a return of the shortest period in which you can find ingots have been coined at the Mint?—I will furnish it.

2225. Mr. *Hume*, to Mr. *J. Sharp.*] You have heard what has been stated by Mr. Morrison; will you now state to the Committee what passed when you carried the bullion to the Mint to be coined?—At that time, I stated to several gentlemen in the Mint, and to Mr. Morrison among others, that we were doing the thing for an experiment; that we should keep an accurate record of the dates, and that the loss of interest would fall upon us, and therefore that we wished to have no delay that could be avoided; but at the same time, I said we did not expect the Mint to alter its regulations for us, though we wished to have it done as speedily as possible.

2226–7. *Chairman.*] You apprised the Mint that it was your intention to make a statement to this Committee?—Yes. Mr. *Morrison.*] We were not to alter our regulations; that is, if our pyx day was Tuesday, we were not to hold it on Monday.

2228. *Chairman*, to Mr. *J. Sharp.*] Is it not required that any gold ingots imported into the Mint should be previously assayed by the King's assayer?—Certainly.

2229. That previous assay is a part of the private business of the King's assayer, and is not a part of the Mint business, properly speaking?—I conceive so.

2230. Do you conceive that this regulation operates inconveniently or unfairly upon the trade?—I cannot perceive any advantage to the importer; if the Mint say it is necessary, we must yield to the necessity.

2231. Is there any complaint made of the rate charged by the King's assayer for this previous assay?—I believe none; there have been other assayers who have

Messrs. *J. & G. A. Sharp, G. F. Matthison, J. W. Morrison, & J. Atkinson.*

15 June 1837.

worked for a less remuneration; and the King's assayer has met the wants of the public, and has reduced his charges, but not exactly in the same proportion.

2232. Is the present charge of the King's assayer above that made by other assayers?—Considerably.

2233. What is the difference?—Mr. Bingley's charge to the trade is 4*s.* for an assay, and the private assayer's charge 2*s.* 6*d.*; but in this case Mr. Bingley charged 5*s.*, because we told him that we should keep a record of all the transactions.

2234. Why should Mr. Bingley charge more on this occasion?—Because that used to be his charge; he only reduced it a short time to meet the demands of the public.

2235. The gold that you sent for coinage had not been previously assayed by Mr. Bingley before you sent it to the Mint?—We had had a previous assay made by Mr. Johnson, so that we had three assays made of that gold.

2236. How much did you pay to Mr. Johnson?—Two shillings and sixpence each bar.

2237. Is the result of the Mint regulation in this respect, that ingots assayed by the King's assayer are preferred in the market to ingots assayed by any other assayer?—They are preferred, not in proportion to the charge, because a great deal of the private business passes through private assayers.

2238. But they are preferred in consequence of its being possible to send them to the Mint without having a charge to pay the second time?—Certainly.

2239. Mr. *Hume.*] Would the Bank buy any that had not been assayed by Mr. Bingley?—No; and not only that, but they will require to cut the bar; they will take the bar itself, and cut a bit off and send it to the Mint for assay.

2240. *Chairman.*] Do you suppose that that is in consequence of Mr. Bingley's high reputation as an assayer, or that it is the effect of the Mint regulation, which would render it impossible for the Bank to send bullion to the Mint for coinage without having it assayed, if it has not been previously assayed at the time of its being sent to the Mint?—I should say that both causes operate in a degree, but the latter the most strongly.

2241. Mr. *Hume.*] Are you aware that the gold imported into the Bank must be assayed by Mr. Beckwith, the master's assayer, before it is allowed to be potted?—Yes.

2242. There are, consequently, two assays before the gold is delivered to the melter?—I apprehend so.

2243. *Chairman.*] Besides what is called the private assay of Mr. Bingley, of which we have been speaking, in the account which you have delivered to the Committee there are fees charged for another assay of the King's assayer, for an assay of the master's assayer, and certain fees to the Mint porter; do you conceive that these fees are paid voluntarily on your part, or that the Mint has a right to demand them from you?—We objected to them, but were informed that we must pay them; they were not voluntary.

2244. You were informed by the Mint that you must pay them?—Yes.

2245. To Mr. *Morrison.*] You have heard the answers of Mr. Sharp about these fees; in your opinion, are they obligatory or voluntary?—I consider that usage from time immemorial has established these fees to the bullion porter and the assayer of the Mint; they are noticed in the financial Report that has been delivered to the House of Commons.

2246. Does the demand for these fees rest solely on long custom, or is there any express authority for receiving them?—There is the Order of Council that I mentioned.

2247. What Order of Council?—In 1815.

2248. The fees of the King's assayer and of the master's assayer are alluded to in this Order of Council?—Yes, but not the porter's fees.

2249. Mr. *Hume.*] Are those fees stated to have been paid by the Messrs. Sharp, the fees respecting which the porters and others have been already examined?—Yes.

2250. After the evidence you have heard from the Messrs. Sharp respecting the transactions of which we have had the details, have you any observations to make to the Committee upon that subject?—Yes; it appears that on the 1st of February 10,000*l.* odd was received from Mr. Sharp in bullion; on the 2d, 3,000*l.* odd, and on the 3d, 4,000*l.* odd, making altogether 19,000*l.* odd. At that time we had a quantity of gold bullion belonging to the Bank of England,

and

Messrs. *J. & G. A. Sharp, G. F. Matthison, J. W. Morrison, & J. Atkinson.*

15 June 1837.

and according to the rule of the Mint the first importer must be paid off before we can take into consideration the succeeding importer. After we got rid of the bullion of the Bank of England, we began to deal with that of the Messrs. Sharp. On the 18th of February they received 3,500 *l.*; on the 22d of February, three days afterwards, they received an additional 7,000 *l.* Now I consider that we were very quick when we did begin upon their bullion; and on the 10th of March they received the balance. The difference between February the 18th and March the 10th is 20 days. Now if Mr. Sharp had sent in 20,000 *l.* worth of bullion, and asked me how soon the whole of that 20,000 *l.* would be delivered to him, coining it up to the last farthing, if we could, I should have said he would not receive it under four or five weeks; therefore the transaction was quick.

2251. Will you be able to furnish the Committee with an account of the bullion in the strong room for coinage on the 1st of February, and the coinage between that and the 18th of February, when you began Mr. Sharp's coinage?—Yes.

Mr. *Percival Nott Johnson,* called in; and Examined.

Mr. *P. N. Johnson.*

2252. Mr. *Hume.*] WHAT business are you in?—An assayer of metals.

2253. Where do you reside?—In London; in Hatton-garden.

2254. Have you been long in that business?—The last 28 years.

2255. Do you assay bullion for the Bank?—We used to do so.

2256. When?—It must be about 25 years ago.

2257. Did the Bank buy gold on your assaying then?—Yes.

2258. Was that sent to the Mint at that time?—It was sent to the bullion office at the Bank.

2259. *Chairman.*] Was it subsequently sent to the Mint for coinage?—I believe it to have been sent there.

2260. Mr. *Hume.*] Was the Bank at that time in the habit of buying bullion assayed by others in the trade, as well as yourself?—I am not aware that they were: my father and grandfather were the commercial assayers of London; it has been in our family for a number of years, nearly a century.

2261. Since 25 years ago, what has been the practice with regard to the purchases of the Bank; have they employed you at all?—They have not.

2262. Do you assay bullion for the merchants?—Yes.

2263. And is that bullion afterwards sold to the Bank?—It is.

2264. If they will not receive it from your assay, what takes place?—I believe they have it assayed by Mr. Bingley, the assay-master at the Mint.

2265. What is the charge you make for gold and silver assays now for the trade generally?—We charge half-a-crown for gold assays and 1 *s.* for silver ones.

2266. Supposing bullion were delivered to you at eight in the morning, at what time would the assay be completed?—We take assays in till five in the afternoon, and deliver them out by twelve or one next day, unless they happen to be in great numbers.

2267. What number of assays could you get through in a day?—A hundred.

2268. Of gold?—Yes.

2269. *Chairman.*] To what do you attribute the Bank not having bought bullion upon your assay for the last 25 years?—I cannot say. They never complained of inaccuracy or anything of that kind.

2270. Do attribute it to any alteration in the Mint regulations?—I am not aware of any.

2271. Mr. *Hume.*] At that time, are you aware whether any melters except Brown & Brind melted for the Bank?—I believe not at that time; a few years previous they did. It is about 30 years back, I believe, that there were other melters besides Brown & Brind.

2272. Are there any now besides them?—Not that I am aware of.

2273. Are you aware that the melter of the Mint is also employed in that way?—Yes.

2274. Can you state what is the opinion of the trade as respecting that limitation on the part of the Bank as to assays and melting?—I have heard that merchants and importers of bullion were desirous of having the option of having it assayed and melted at other establishments.

2275. Have any applications been made to the Bank with your knowledge on that subject?—I understood there had been a petition two years back.

Mr. P. N. Johnson.

15 June 1837.

2276. From whom?—From the merchants of London and Liverpool.

2277. To what purport?—I am not aware of the exact purport; I did not see the petition.

2278. Can you inform this Committee of the names of the parties who signed that petition?—I believe, Try and Lightfoot. I understood there was a list of them, but I do not know who they were.

2279. Do you know the purport of the petition?—I do not.

2280. Do you do any business for the Imperial Brazilian Mining Company?—I do.

2281. Do you assay their bullion?—I refine their bullion.

2282. Is that metal afterwards ever sold to the Bank?—It is.

2283. And do they buy it on your assays?—No.

2284. Then is it requisite that the Mining Company should send it to be refined?—It is sent to my establishment to be refined and melted into bars, and these bars are returned to the bullion-office of the Bank.

2285. Where do you get it from first?—We first obtain the gold dust from the Imperial Brazilian Mining Company, and we afterwards refine it, and melt it into bars of about 15 pounds weight; we then take it to the Mint, to have the Mint stamp put upon it, and from thence it goes to the bullion-office, and is assayed by the King's assay-master.

2286. What is the use of taking it to the Mint to have their mark upon it?—When I first undertook it there was some gold that was considered not tough.

2287. It was brittle?—It was brittle. In consequence of that, I felt it better for my own security to have the Mint mark upon it, as the gold was liable to be returned for coinage.

2288. *Chairman.*] Who puts that Mint mark on it?—I am not aware, but Mr. Matthison has the mark.

2289. Do you know whether that mark is put by Mr. Matthison as a Mint officer, or is it a part of his private business?—It is an understanding between Mr. Matthison and myself that the mark should be put upon it, otherwise I should be liable to have the bars returned, if they were not tough.

2290. Mr. *Hume.*] Does Mr. Matthison examine this before he marks it?—Yes; a piece of each bar is cut off, and melted with a certain proportion of copper to bring it to about the standard, and this small bar is bent, to prove that it is tough and fit for coinage.

2291. Is pure gold often in a state not fit for coinage?—No; I consider, if it is perfectly pure gold, and is mixed with copper or other alloy, there is no reason why it should be brittle.

2292. Do you pay Mr. Matthison any money for this operation?—Yes.

2293. What do you charge yourself for refining?—7 *s.* a pound, returning the alloys.

2294. You mean whether the alloys be silver or anything else?—In this instance they are silver and palladium, and both metals are returned.

2295. And you charge the net sum of 7 *s.* for a pound of gold?—Yes.

2296. What do you pay per pound for the Mint stamp?—Fourpence on the refined gold.

2297. Now in silver what do you do?—I have never melted any silver at my establishment.

2298. Do you refine any silver?—Only such as it is necessary to use for refining the gold.

2299. What do you charge for refining silver?—We do not refine any, except what is used for refining the gold.

2300. That is what is called water silver?—Water silver.

2301. You said there was a complaint, and your bars were returned on one occasion; now have there been any complaints since they were stamped at the Mint?—No, there have not.

2302. How many years is that past?—About four years.

2303. Sir *Thomas Fremantle.*] Has Mr. Matthison ever returned you any bars for being brittle, and refused to put any stamp upon them?—No; in the instance when they were returned Mr. Matthison refined them.

2304. Mr. *Hume.*] Have you known any establishment in London which has melted gold or silver for sale to the Bank, and that that has been refused?—I am not aware of any; I believe it to have been the general understanding that none is taken except with Mr. Matthison's mark and Brown & Brind's.

2305. Have you introduced the new method, by which silver is separated from gold, into your establishment, as a refiner?—By sulphuric acid, I suppose?

2306. Yes?—No, I have not.

2307. Are you able to tell the Committee whether there is any establishment, except that at the Mint, where that process is introduced?—There was one, but I believe now there is none in this country.

2308. *Chairman.*] What is your charge for melting?—We do not charge anything for melting; it is brought into refined bars for the price of 7*s.* a pound.

2309. Including the melting?—Yes.

2310. Mr. *Hume.*] Does it make any difference in what manner the gold comes to you, whether in grains, or ingots, or how?—We charge the same; we return the alloys.

2311. Do you find the gold from Africa easier of melting than the other, and purer generally?—Yes, either for refining or melting.

2312. Is it both?—Decidedly.

2313. What establishment would you require for a couple of hundred assays a day?—I should require two assistants.

2314. Yourself and two assistants?—Yes.

2315. Would these assistants be firemen, or what?—No; they would attend to the scales, and also to the assays in the fire.

2316. Would two assistants be able to go through all that labour?—There would be three persons altogether, and a labourer of course to feed the fires.

2317. *Chairman.*] You mean three persons besides a labourer?—Yes.

2318. Mr. *Hume.*] And how many furnaces would you require?—Two.

2319. How many assays would you make in one furnace?—We have done as many as 80; 60 is the usual number, 30 that is, or 40 double assays.

2320. What is the difference between single and double assays?—We make two assays in the double, and if they agree, we consider the assay correct: we are liable to errors in assaying, and therefore we always make two assays if it is a bar of any consequence, and if they agree when refined, we consider the assay correct.

2321. Can you state, from your acquaintance with the trade, what is the general opinion respecting the Bank's receiving bullion only melted by one house, or only assayed by the Mint assayer?—I have heard it mentioned that there have been complaints.

2322. Of what kind?—Of the detention, I believe, of the assays; I have understood so.

2323. You have heard of no other objections?—I believe the petition I alluded to will set forth the objections that were taken.

2324. *Chairman,* to Mr. *Matthison.*] You have heard what Mr. Johnson has said upon the subject of the Mint stamp which is put upon the ingots; have you any observation to make to the Committee upon that subject?—I would state that what is called the Mint stamp is merely a stamp with a Crown as a mark of my own, and is not intended as any public mark which would have the authority of the Mint connected with it. The ground upon which I undertook to do it originally for Mr. Johnson, as I apprehend, was this, that his business, as a refiner of gold, is a recent one. When Mr. Johnson commenced business as a refiner, he took his bars to the Bank in the ordinary course of things, and no person whose gold had never been known was received at the Bank, nor would it have been except it had been melted by Brown & Brind: that is the case, as I understand it, and there was a difficulty on the subject. Mr. Johnson waited upon me and stated the circumstances. My opinion of Mr. Johnson's skill was considerable, from private intercourse I had with him, and I had very little doubt in my own mind, from the account of his process which he gave me, that his gold would prove perfectly good. There had been, at that period, considerable quantities of bad gold brought from France. I knew that in refining it was not only the skill and power of doing it which was required, but also the care and accuracy with which it might be done, and therefore that it was liable to doubt. I accordingly suggested, as an accommodation to him (and it was entirely on that ground), that if he liked to send his ingots to me beforehand, I would examine them, and undertake, by putting my mark upon them, to render them quite fit to come through the Mint for coinage afterwards, so that there could be no doubt upon the subject; for as we had been accustomed at the Mint to receive bars from Brown & Brind only, if we received any new gold there would be a doubt raised upon it.

Mr. *P. N. Johnson.*

15 June 1837.

2325. In the case of Brown & Brind, do they look to you for this mark?—No; we consider their credit established, and we have never any doubt about them. Under those circumstances, I stated that if he could make an arrangement with the Bank, I would facilitate, as far as I could, that arrangement, by trying the ingots, and, if good, I would put my mark upon them, and then he might try to induce the Bank to buy them.

2326. Would the officers of the Mint consider themselves as under any difficulty in receiving bullion without this mark?—Mr. Johnson wished to sell his gold to the Bank; they refused to receive it unless melted by Brown & Brind. I offered him my mark as a certificate; and as the Bank could rely on my certificate, they acquiesced, and made an exception in his favour.

2327. Can you state with certainty that this difficulty which the Bank expressed had no reference to any practice or custom or regulation at the Mint which would have prevented the reception of those ingots at the Mint without your mark being upon them?—I am not aware of any: at the same time, I should say that the custom which the Bank have of having all their gold melted by one melter tends very much to the benefit of the Mint; it ensures the Mint good ingots, which can be depended upon.

2328. Mr. *Hume*, to Mr. *Johnson.*] Who pays that 4*d.* you have spoken of?—I do.

2329. Is that out of the 7*s.* you receive?—Yes.

2330. When you applied to Mr. Matthison, was it not to prevent the complaint that had been made being repeated?—Certainly.

2331. You have stated that a complaint was made of some of your bars which were returned?—Yes. I beg to observe, I feel perfectly satisfied with what Mr. Matthison says. It is the first time that I have known that it is his private mark; I have been in error in supposing it was the Mint stamp. There were two bars refused at the Bank which had Mr. Matthison's mark upon them, and had not the Imperial Brazilian mark; and I believe it was in consequence of that that the petition was got up.

2332. You made the arrangement in order to facilitate as much as possible your bars being received by the Bank?—Exactly.

2333. And in doing that, you supposed it was with the cognizance of the Mint authorities that that stamp was put on?—I was under that error.

2334. *Chairman.*] Are you now aware that it is perfectly free to the Bank to send ingots to the Mint to be coined without having this private mark of Mr. Matthison's upon it?—Yes, provided it is melted at Brown & Brind's.

2335. Are you aware that that arrangement is one which the Mint has nothing to do with, but which the Bank appears to have adopted of themselves, and of which the Mint takes no cognizance?—I imagine so.

2336. Mr. *Hume.*] You were asked if you could come prepared to state what would be the expense of 80 assays, supposing that to be an average day's work; were you able to do it?—Yes; I have confined myself to the mere expense of the materials used.

2337. Have you been able to state what the amount is?—Eighty assays, taking the weight on each assay, or 12 grains for each assay, would be four ounces of fine gold; and I calculate upon two pounds weight of nitric acid for that purpose, six sacks of fuel and coppels, muffles and glass, lead, and recovering the silver used in parting; making a total of 24*s.*

2338. You have stated the expense of materials for 80 assays of gold?—Yes, the materials used; there is neither labour nor rent, nor other expenses attached to it.

2339. Have you any suggestions to make to the Committee?—I would merely say, as there have been some observations made on my having been but a short time in the business as a refiner, that I was employed by the Lords of the Treasury to make the trial-plate for the trial of the pyx, which was done at my establishment. I was appointed by the Committee to melt and alloy it properly.

2340. Was your work accepted and approved of?—It was.

Martis, 27° die Junii, 1837.

MEMBERS PRESENT.

Mr. Ridley Colborne.	Sir Charles Lemon.
Mr. Joseph Hume.	Mr. Parker.
Right Hon. Henry Labouchere.	Mr. Baring Wall.

JOSEPH HUME, Esq., IN THE CHAIR.

Mr. *Matthew Marshall* and Mr. *Haggard*, called in; and Examined.

2341. *Chairman*, to Mr. *Marshall*.] WHAT office do you hold?—I am chief cashier of the Bank of England.

2342. To Mr. *Haggard*.] What is your office?—I am chief clerk of the bullion office in the Bank of England.

2343. How long have you been in that situation?—About 18 years.

2344. In what way do you purchase bullion for the Bank?—There are Bank brokers, Messrs. Mocatta and Goldsmid, who send contracts to different parties. In the case of the purchase of silver or gold, the parties bring it to the bullion office; there it is weighed off and the money paid.

2345. In what way is the value of the gold or silver tested when it is bought by you?—There is generally a market price for silver and a fixed price for gold; the Bank purchase gold at 3*l.* 17*s.* 9*d.*, but the silver is bought at the market price, according to the supply and demand.

2346. What steps are taken to ascertain the fineness of the metal?—A bar is brought into the office, and a small piece is cut off from the corner, which piece is put into a paper, with the mark of the bar, the date when it was brought in, and either "gold" or "silver" marked upon the paper, and then it is sent to the King's assay-master at the Mint.

2347. To Mr. Bingley?—To Mr. Bingley.

2348. Does he assay all the gold and silver?—No, not always; there is a private assay-master, of the name of Johnson; the public sometimes require us to send to him instead of Mr. Bingley, but the Bank invariably employ Mr. Bingley.

2349. What do you mean when you say the public sometimes require you to send it to Mr. Johnson?—We have two departments in our establishment, one which is connected only with the Bank, and the other is an accommodation for the merchants; when the Bank are perhaps not buying. The brokers find private buyers for the specie brought into the bullion office.

2350. Do you mean that you receive and take charge of bullion belonging to private merchants, though you do not become the purchasers of it?—Exactly.

2351. Is that so to any great extent?—To a very large extent.

2352. Do Mr. Sharp and the other bullion merchants in London make their deposits in strongholds with you?—The deposits are chiefly made by ships arriving at different ports; they are sent up to the bullion office, and the parties belonging to the specie bring bills of lading, with the mark of the box, and the contents.

2353. Then that private bullion office is for the reception of bullion of all kinds till the merchants shall be able to dispose of it?—Exactly.

2354. Do you have any assay of that which is lodged in the private bullion office till it is about to be sold?—Not until Mocatta and Goldsmid have instructions for sale.

2355. But are not those assays made at the request of the proprietors who wish to sell, and not at the request of the Bank?—We take it as a matter of course,

Mr. *M. Marshall* and Mr. *Haggard*.

27 June 1837.

course, if they are brought to us, that they are to go through the regular course which the office adopts, of sending them to the King's assay-master.

2356. You send the bullion to Mr. Bingley for assay, when it comes into the private bullion office, as well as when it comes into the public Bank bullion office?—Unless a particular request is made by the individual to send it to Mr. Johnson.

2357. Is Mr. Johnson the only other assayer employed, to your knowledge?—Yes, Mr. Johnson and Mr. Bingley are the only two; there is a brother, I believe, of Mr. Johnson's also.

2358. But he is in company with him, is he not?—No, I do not think they are in partnership; but we never send assays to him.

2359. During the 18 years you have been in your office, have you known assays sent to any others than the two you have mentioned?—No.

2360. By whose directions do you send to those two gentlemen; is there any minute of the Bank upon the subject?—The Bank employ Mr. Bingley only; the purchasers of the gold would not be satisfied with any other assay: if a private assay, the circumstance is always mentioned to the buyer.

2361. Who do you mean by purchasers of gold?—Those who send the gold abroad; when the stamp "H. B." is upon them, the parties know that the bars are reported by the Mint, and consider them to be fairly and honourably done.

2362. Is the order for employing Mr. Bingley by a minute of the court, or in what way?—I believe it is more practice than anything, because the purchasers would not be satisfied without Mr. Bingley's assay; there are always two parties in those cases, the buyer and the seller.

2363. Have you ever made a trial of any other assayer, to judge how far the parties have been satisfied?—Mr. Johnson.

2364. Are you able to say that Mr. Bingley's assay, he being a public officer, gives more warrant and authenticity to the assay than Mr. Johnson or any other private person could give?—Yes, I should say so; abroad particularly; though I believe Mr. Johnson is perfectly correct in his reports.

2365. Have you anything to do with the charges for assaying, or do you know what charge is made by these gentlemen?—Mr. Bingley's charge for gold bars is 4 *s.*, and 2 *s.* 6 *d.* for silver; there are also other charges for parting assay; if there is silver enough in the bars to make it worth while to take it out, you have a parting assay, which is a more expensive one.

2366. What weight of gold and silver goes to the assay?—From 15 lbs. to 16 lbs; the weight of the assay is from 2 dwts. to 3 dwts.

2367. Have you ever known the assay of Mr. Johnson objected to?—Yes; we should never part with a bar without mentioning to the buyer that it was not the Mint report; we should not think ourselves justified in doing so.

2368. Have you frequently sold bullion assayed by Mr. Johnson?—Yes; formerly there was a difference of a halfpenny an ounce between Mr. Johnson's assay and Mr. Bingley's in silver.

2369. The purchaser would give a halfpenny more for Mr. Bingley's assay than for Mr. Johnson's?—Yes.

2370. Has that been in cases where the bullion has gone to a foreign market?—For the home trade as well as the foreign market.

2371. What is the charge which Mr. Johnson has usually made for the assay?—Two shillings for gold, and one shilling for silver.

2372. Mr. *Wall.*] You said that formerly there was a difference of a halfpenny an ounce between Mr. Bingley's assay and Mr. Johnson's?—Yes.

2373. Does that difference exist now?—No, I believe at that time Mr. Johnson had not so good a process of assaying; I think that his process of assaying is now very much assimilated to Mr. Bingley's.

2374. *Chairman.*] But within this last year has there been any difference in the value of the bullion sold on Mr. Johnson's assay, as compared with Mr. Bingley's?—None whatever.

2375. Have any applications been made by any other assayer, to your knowledge, for the employment of the Bank?—No, I do not think Mr. Johnson has; if he has, I am not aware of it.

2376. When you send the assays both of public and private bullion to the Mint, how long is it in general before you receive the report?—It is seldom more than two days, unless there is any very great influx; about two days, I should say, at the most.

2377. What

2377. What is the quickest time in which you have ever received an assay?—We have had it done in one day, under particular circumstances; we have sent it down in the morning, and Mr. Bingley has been kind enough to let us have it the same day.

2378. That is, when you have intimated a desire to have it expeditiously?—Yes; but that is a very rare circumstance, for the merchants generally want to send their accounts when the packet sails, which is on some specified day.

2379. What is the longest time you have ever known taken to make the assay?—I do not know that we have had any reason to complain; therefore it has made no impression on my mind.

2380. The trade has never suffered any inconvenience?—Sometimes, when the influx has been very great, it does not come so quickly as when there is a smaller quantity, but there is no other complaint that I know of.

2381. Will you describe the process which is gone through when you send bullion to the Mint to be coined?—We generally keep bars of gold of 15 lbs. weight, in sets of 100 bars; these bars are kept all in readiness, the assays calculated, and brought into standard.

2382. From what report do you make the calculation?—From Mr. Bingley's report.

2383. Is the Committee to understand, that as to all the gold sent to the Mint to be coined, you have a previous assay in the office made by Mr. Bingley?—Yes, and none other; then, having done this, Mr. Marshall, the chief cashier, sends word that he shall want to send gold to the Mint on such a day, perhaps giving us a day or two's notice; and then we get the quantity required ready, and Mr. Marshall sends a gentleman from his office to take charge of it, which gentleman signs for it in our office, and takes it to the Mint.

2384. What officer attends in the Mint to see the bullion weighed and the account taken?—The gentleman who takes the bars, a gentleman in Mr. Marshall's office; we then lose sight of it altogether; we write it off, and know nothing more about it.

2385. Your department is entirely confined to the custody, and to the obtaining the assays in order to ascertain the value?—Yes; we are connected with foreign bullion and coin.

2386. When the guineas were returned to be coined, were they placed in your custody in the same manner as other bullion?—We used to weigh them off, and send them to Brown & Brind, the Bank melters, to turn them into bars; that was when guineas were called in, many years ago.

2387. Do your books show the number or the weight of guineas which passed through your office in that way?—Yes, certainly; the bars that have been melted from guineas.

2388. But the question is, can you, by the books in the bullion office, show the total amount of guineas received for melting since the re-coinage?—No, I do not think we could manage to do that, because a great number of them went to the Mint to be turned into sovereigns, but not from us; we could show everything that passed through our books.

2389. Did any go to the Mint direct, without going through your office?—That I cannot answer, because they might go from the Teller's office, which is unconnected with us.

2390. (To Mr. *Marshall.*) Are you able to state whether all the guineas for re-coinage went through the bullion office?—Certainly not.

2391. From what other office did they go?—They were accumulated in the Treasury, and when it became inconvenient to keep them there, they were placed in the vaults, under the custody of the directors; but all the guineas would in reality pass primarily from the cashier's department; that is, although the head of the bullion office would be informed that the bars that he would receive would be the result of guineas melted, yet they would in reality come from me.

2392. Then is the Committee to understand, that your office often sent guineas to the melter to be reduced into bars, and then that these bars either went to the Mint or came into the bullion office?—Yes.

2393. In all cases?—If melted into bars, then in all cases they came into the bullion office.

2394. And if not melted into bars?—Then they would go direct to the Mint, after the weight of each bag had been checked in the bullion office.

Mr. *M. Marshall* and Mr. *Haggard.*

27 June 1837.

2395. Would the bullion office books show the total amount of guineas that have gone directly and indirectly for coinage?—I should think not.

2396. How is that to be obtained?—That would be in my department altogether.

2397. When gold is sent to be assayed, is it by your order or by the order of Mr. Haggard alone?—If it were bar gold, bullion bought by the Bank, Mr. Haggard would as a matter of course send, without instructions from me, for it would form a part of his duty; but having received the contract from the broker for the purchase of so much bullion, he would cut off the assay bits, and send them as a matter of course.

2398. Suppose gold imported by the Imperial Brazilian Mining Company, or any other company, and brought to the Bank for sale, it comes through the broker; but to whom does the broker apply?—In the first instance he reports to the governor that he has made that purchase, the governor sanctions it, and the broker's ticket is brought to me; they are in duplicate, and one of them is forwarded to the bullion office, as the authority under which they are to receive the gold.

2399. Would you receive gold from the Brazilian or any other public company, or private individual, on any other assay than that of Mr. Bingley?—Certainly not.

2400. Is that in consequence of any minute of the Bank, or by whose directions?—That method of assaying has existed so long, that I cannot charge my memory with an answer to the question.

2401. How long have you been in your office?—I have been in the office about 24 years, but in my present position only since 1829.

2402. Are you able to tell whether bullion was formerly bought on the assay of any other person than Mr. Bingley?—Whether there are any reports of that kind I do not know.

2403–4. But since your time you have seen none?—No. (Mr. *Haggard.*) I can speak to 50 years; my predecessor, Mr. Humble, was in the office 50 years, and the assays were always sent to the King's assay-master during his time.

2405–6. *Chairman* to Mr. *Haggard.*] Do you mean you can say that for 50 years bullion has not been bought but on the assay of Mr. Bingley?—Of the Mint assay-master.—(Mr. *Bingley.*) That has been a general rule for more than a century.

2407. *Chairman,* to Mr. *Haggard.*] Have you ever known any bullion rejected because it had not been assayed by Mr. Bingley?—Yes.

2408. Has that frequently been the case?—I believe it was a case put purposely.

2409. How long ago?—It may be two or three years ago; it was to try how far we would accept another assay.

2410. Was that reported to the directors of the Bank at the time?—It was reported to the governor.

2411. And by their sanction you were directed to keep to the old practice of employing Mr. Bingley?—We had no authority or instructions to alter the practice, and therefore we considered it was still to continue.

2412. (To Mr. *Marshall.*) You keep, then, in your books, an account of all the bullion sent, the value being calculated agreeably to the assay; in what manner is the return made by the Mint to you?—The bars are delivered in the first instance to the master's assay-master, and then a certain time elapses before a report is obtained; it undergoes at the Mint a second assay, I believe by the master's assay-master; we then have notice to attend the weighing in and the rating of any particular set of bars.

2413. There is a new rating after the melting?—No, I believe it is previous to the Mint's melting; that is, they are delivered to the master's assay-master in the first instance, who re-assays them, in order to check the original assay by the King's assay-master, or rather by Mr. Bingley, for we do not view him in his official character as King's assay-master.

2414. You consider that the first assay is a private assay, unconnected altogether with the proceedings of the Mint?—Unquestionably.

2415. And are the assays that take place after you deliver them official assays of the Mint, to regulate their own proceedings?—I presume so; I presume that they

Mr. *M Marshall* and Mr. *Haggard*.

27 June 1837.

they treat the gold as if it never had been assayed, though they have the report of Mr. Bingley.

2416. Do you find, in the return made, any difference in the value of the bullion between that which you deliver and that which is returned?—There is a trifling difference; that is, the sovereigns returned may be a little over or a little under the standard weight.

2417. Have you not found a difference in the standard value, between Mr. Bingley's private assay and the public assay in the Mint, after the delivery of the bullion?—Yes.

2418. Can you state how much it has been since 1816?—In the account which is produced, it will be seen that there is a statement of the quantity of original standard gold delivered in to the Mint, and the quantity produced by the Mint, with the profit to the Bank as resulting from the fractions.

[*The following Account was put in:*]

AN ACCOUNT of BAR GOLD sent to the MINT for COINAGE, in each of the undermentioned Years since 1816; together with the Profit thereon to the Bank of England, arising from the Allowance by the Mint of the Fractions in Fineness, but which Fractions were too small to be reported on each Bar for the benefit of the Seller.

	SENT TO THE MINT.		PRODUCED AT THE MINT.		PROFIT to the BANK.
	Weight of Bar Gold.	VALUE.	Weight of Bar Gold.	VALUE.	
	Ozs. *dwts.* *grs.*	£. *s.* *d.*	*Ozs.* *dwts.* *grs.*	£. *s.* *d.*	£. *s.* *d.*
1817 - -	1,395,026 3 17	5,431,883 4 2	1,397,374 13 1	5,441,027 11 –	9,144 6 10
1818 - -	435,088 – 1	1,694,123 18 1	436,008 17 11	1,697,709 10 11	3,585 12 10
1821 - -	2,789,939 17 17	10,863,328 8 6	2,794,020 19 3	10,879,219 1 11	15,890 13 5
1822 - -	1,062,222 5 4	4,136,027 18 4	1,063,771 12 11	4,142,060 15 1	6,032 16 9
1823 - -	151,658 2 13	590,518 16 7	151,849 13 17	591,264 14 3	745 17 8
1824 - -	1,241,999 – 17	4,836,033 14 10	1,243,657 12 6	4,842,491 16 6	6,458 1 8
1825 - -	912,439 10 11	3,552,811 7 10	912,782 15 6	3,554,147 17 7	1,336 9 9
1826 - -	1,619,270 16 20	6,305,035 16 9	1,620,887 11 6	6,311,330 18 11	6,295 2 2
1827 - -	429,500 6 10	1,672,366 17 5	429,899 14 17	1,673,922 1 10	1,555 4 5
1828 - -	286,124 12 18	1,114,097 16 1	286,292 5 5	1,114,750 9 9	652 13 8
1829 - -	157,468 16 1	613,144 2 11	157,586 16 20	613,603 15 3	459 12 4
1831 - -	128,388 10 7	499,912 15 6	128,487 – 11	500,296 6 10	383 11 4
1832 - -	829,957 – 4	3,231,645 2 –	830,878 15 3	3,235,234 3 1	3,589 1 1
1833 - -	302,500 16 11	1,177,862 11 7	302,735 14 5	1,178,777 3 5	914 11 10
1835 - -	270,879 9 14	1,054,736 19 5	271,060 8 13	1,055,441 10 9	704 11 4
1836 - -	484,396 10 22	1,886,119 1 –	484,785 9 22	1,887,633 10 5	1,514 9 5
	Ozs. 12,496,859 19 19	£. 48,659,648 11 –	*Ozs.* 12,512,079 19 13	£. 48,718,911 7 6	£. 59,262 16 6

Also, AN ACCOUNT of the Loss incurred by the Bank of England by the Melting of Guineas, Half-Guineas and Seven-Shilling Pieces, since the Year 1816,

£. 43,728. 2. 3.

Bank of England, 27 June 1837.

2419. Does this include all that has been coined on account of the Mint, or the whole that has been coined by the Mint?—The whole that has been coined by the Mint from bars.

2420. Has there been any more coined from guineas?—In some instances guineas were delivered into the Mint new; that is, they never had been issued to the public, and the Mint standard corresponded exactly with the weight delivered in.

2421. Can you give any account of the amount of these deliveries, in addition to this?—Yes; I could give the standard weight of each set of bars.

2422. Would that account enable us to ascertain the number of guineas actually melted since the year 1816?—In the account that I should make out with a view to give that information, I should state the actual amount of guineas melted by the Bank. It must however be borne in mind, that guineas, &c., have been melted down in France and elsewhere, for the purpose of extracting the silver contained in them.

Mr. *M. Marshall* and Mr. *Haggard.*

27 June 1837.

2423. Latterly?—I should think so.

2424. Could you give anything like an estimate of the number so melted?—I have not the least idea.

2425. It appears by this account that from the year 1816 to 1836 the profit to the Bank had been 59,262 *l.*; will you state what loss accrued to the Bank by remelting the guineas, half-guineas and seven-shilling pieces?—The same account shows the loss to have been 43,728 *l.*

2426. So that in fact the profit to the Bank during that time was reduced to between 15,000 *l.* and 16,000 *l.*?—Exactly.

2427. Have you found any inconvenience from delay in obtaining coin for the bullion sent in from the Bank?—None whatever, I should say.

2428. (To Mr. *Haggard.*) You have stated that some few years ago a trial was made, and that you purchased gold on the assay of Mr. Johnson; what became of that gold?—It was taken away, and sold to some private buyer.

2429. Was it ever brought back to the Bank?—I do not think it was; if it was, it went through the regular routine.

2430. Of Mr. Bingley's assay?—Of Mr. Bingley's assay; it possibly might be sold to a private buyer, which is very likely, because Mr. Sharp and Mr. Goldsmid are opposed to each other, and Mr. Sharp would not employ Mr. Goldsmid.

2431. Mr. *Wall.*] Was there any minute of the proceedings of the Bank on that occasion, or do you know what passed?—It passed between myself and the governor for the time being.

2432. *Chairman.*] Was there any written correspondence?—Yes, there was; and I think there was some statement in the paper about it; in the Morning Chronicle.

2433. Do you recollect about what date it was?—No, I do not.

2434. Mr. *Wall.*] At whose instigation was this experiment made?—I can only state my belief, that it was Mr. Sharp.

2435. *Chairman.*] Is the Committee to understand that the only brokers employed by the Bank for purchase are Mocatta and Goldsmid, and that the only assays you now purchase on are those of Mr. Bingley?—For the Bank.

2436. Does that apply equally to silver as to gold?—Yes, equally.

2437. In purchasing dollars, do you require any assay for them?—No, they fetch different prices according to the value; the Spanish dollar will fetch 1 *d.* or 2 *d.* an ounce more than the Mexican dollar.

2438. The brokers manage that?—Yes, between the buyer and seller.

2439. The prices being known in the market?—According to the supply and demand.

2440. You have stated that the Bank occasionally melt; whom do they employ?—Brown & Brind, No. 30, Wood-street.

2441. Are they the only persons ever employed by them as melters?—The only persons.

2442. And has that been the case ever since you have been there?—Yes, many years; that is done to prevent fraud; if they were to take bars melted by the foreign melters, there would be a risk; occasionally pieces of iron are in them; I have seen them myself.

2443. Do you mean to say that all bullion melted abroad is re-melted in this country by Brown & Brind?—Yes, if it goes through the Bank; they are appointed by the Bank as melters.

2444. You speak of that which is bought by the Bank, not that which is lodged in the strong room?—That which passes through the office, is melted by Brown & Brind.

2445. Is that done in order to ascertain the value, or on what ground?—It is that the bars shall be properly melted; you can fancy a mass of silver put together, if not properly stirred, and if proper heat is not given to it, it will not be uniform in its quality. The foreign bars have turned out better in one part of the bar than the other.

2446. What instances can you state where pieces of iron or any other metal have been found in foreign bars?—I dare say it has happened more than half-a-dozen times within perhaps these three years.

2447. With any particular mark upon it, or merely imported from Brazil, or where?—From South America.

2448. Has

Mr. *M. Marshall* and Mr. *Haggard.*

27 June 1837.

2448. Has that been the case to any extent?—Several pounds weight in a bar; they appeared to pour out a certain quantity of metal, and then place the iron in it, the silver not being too liquid, so that the iron shall float at the top, and then they cover it over.

2449. Has that been detected by Brown & Brind?—Yes.

2450. And has the bar containing that iron gone from your office as pure?—Yes, it has gone in boxes for the purpose of being melted, and supposed to be silver.

2451. Do you put any mark on bullion that passes through your office so melted?—They come in boxes, perhaps containing three or four bars, or perhaps 100 pieces of silver, they call plata pena; that is, pieces of fine silver that have not been collected by quicksilver, not having been put into the fire.

2452. You mean that which has been dissolved by quicksilver, and the quicksilver evaporated?—It is collected by quicksilver, and the quicksilver is squeezed out, and leaves a sort of mortary substance.

2453. Do you send all such bullion to Brown & Brind?—The Bank have nothing to do with melting private bullion; the merchants do that themselves, or the Bank brokers take the boxes to Brown & Brind.

2454. You were asked whether, as a matter of course, all bullion brought into your custody is sent by you to be melted?—No; Mr. Sharp takes much away that does not pass through our scales, and we know nothing of it except as packages: perhaps half the bullion that comes into the Bank goes out as packages.

2455. Had there been any assay of those bars in which the iron was found; had any assay come in with them?—They had a South American mark upon them, but of which we take no notice.

2456. Had those bars in which the iron was found been assayed by any assay-master in England?—Certainly not.

2457. In any of the assays made by Mr. Johnson, of bullion that has come into your private office, have you ever known the assays objected to?—No; but we do not give those bars to the parties purchasing without telling them they are Mr. Johnson's assays.

2458. Mr. *Wall.*] To what cause do you attribute the preference given by the public to the assays made at the Mint?—To the uniformity of the manner in which they are reported; it is so seldom there is any mistake.

2459 Is not that partly to be attributed to there being a double assay there?—Mr. Johnson has a double assay.

2460–1. Will you state what Mr. Johnson's double assay consists of?—He merely tries it twice, to see that they both correspond; and I believe Mr. Bingley does the same. It is only the assay of one person, whether it is Mr. Johnson or Mr. Bingley: it is called a double assay, because the same bar is assayed twice by the same person.

2462. *Chairman.*] The process is this: you buy no bullion that has not the private assay of Mr. Bingley; you know him, but not as connected with the Mint; you calculate on the value he gives you by his assay; you send it to the Mint with that paper; it is then assayed; it has a double assay there, because it has first the assay of the King's assay-master, and afterwards that of Mr. Beckwith, so that there is a double trial in the Mint, in addition to the private trial of Mr. Bingley: therefore, there are three assays, are there not?—(Mr. *Bingley.*) No; there are only two; for it is examined by me privately in the first instance, for purchase, and when I have done so, I never assay it again before coinage.

2463. *Chairman*, to Mr. *Marshall.*] Can you assign any reason why the assay of Mr. Bingley, the public officer of the Mint, should be preferred to that of Mr. Johnson, although their assays appear to be equally good?—I should say it would be simply on the ground of his being a public officer in reality, though we do not treat him as such; that there is more confidence reposed in the assay of the King's assay-master than in the assay of a private individual.

2464. Mr. *Wall*, to Mr. *Haggard.*] You were understood to say, in a former part of your evidence, that the purchaser formerly was in the habit of giving a halfpenny more for Mr. Bingley's than for Mr. Johnson's assays?—Yes, that was the case.

2465. The Committee do not clearly understand when that premium that used to be paid on Mr. Bingley's assay ceased, and on what ground?—It ceased when they assimilated in the method of assaying; there was a different method

Mr. *M. Marshall* and Mr. *Haggard.*

27 June 1837.

of assaying between the King's assay-master and the private assay-master which made a difference in favour of Mr. Bingley's report.

2466. Mr. Johnson having now acquired Mr. Bingley's habit and mode of assaying, on what ground do the public still give the preference to Mr. Bingley's assay over Mr. Johnson's?—I do not know that there is any preference.

2467. You have stated that Mr. Johnson's method was assimilated to Mr Bingley's?—Yes, so I understand.

2468. The question is, Mr. Johnston's method being assimilated to Mr. Bingley's, on what ground is it that Mr. Bingley still holds that pre-eminence in the public estimation which you have stated in your previous evidence?—(Mr. *Marshall.*) I should say, simply on this ground, and it is a confidence which I think will always exist, that though we look on Mr. Bingley in the light of an individual, it is very well known by all purchasers of bullion at the Bank that the assay really is by the King's assay-master; that, I take it, is the ground of confidence.—(Mr. *Haggard.*) It gives a character of authority to it.

2469. Mr. *Wall.*] It consists, then, in the authority which the stamp of a public officer gives to it?—I should say so.

2470. *Chairman.*] Would it not also arise from the preference which the Bank for a number of years have given to his assay as the rule for their own purchase?—(Mr. *Marshall.*) Perhaps it might.—(Mr. *Haggard.*) But I believe Mr. Sharp employs Mr. Johnson entirely.

2471. *Chairman.*] Who pays for the assays of the bullion purchased by the Bank?—The seller.

2472. In what cases have the Bank to pay for the assays?—(Mr. *Marshall.*) In the event of their melting guineas, the Bank paid for the assay; they were already in possession of the coinage; and in the event of the Bank's melting the guineas for the purpose of coinage, the assay was paid by the Bank, as a matter of course.

2473. Does the Bank often melt silver, and have to pay for the assay?—(Mr. *Haggard.*) Formerly we melted an immense quantity; all the 3*s.* and 1*s.* 6*d.* tokens were melted into bars, and the Bank paid the assays and melted them too.

2474. Are you acquainted generally with the bullion market in London?—We have a great deal pass through our hands, more than any other.

2475. What, in your opinion, would be the effect of the Mint having in possession gold or silver coin to deliver to merchants having bullion to coin, so that the exchange might be made in the course of a week from the period of delivering it?—I consider that the Bank of England are bound to keep coin, because their notes are payable in cash, and the Bank ought to be the regulators of the coinage; they ought to be regulators of the quantity of bullion coined, for bullion is more valuable for mercantile purposes than coin.

2476. The question was, what would be the effect on the price of bullion if merchants could carry smaller quantities to the Mint direct than can now be coined, instead of sending it to the Bank or the bullion merchants?—The effect would be, that the public would coin when it was profitable to them, and not otherwise; and therefore your circulation might be deficient or it might be over done, because they do not coin with reference to the quantity wanted by the people, but to the profit that arises upon the coinage.

2477. Would a facility given to merchants to carry that bullion in small quantities to the Mint for coinage tend to raise the price of bullion in the London market?—Certainly not; the fact is this, the public are not allowed to coin silver, they are only allowed to coin gold. The price fixed by the Bank is 3*l.* 17*s.* 9*d.* for the purchase of gold; the profit between coining and that price is only 1½*d.*; therefore it is hardly worth their while to coin, because the profit is not sufficient.

2478. Is there never a greater difference than 1½*d.* an ounce in the price the Bank gives to the seller and what it receives from the Mint?—I believe it is in consequence of the public having the privilege of coining at the Mint, that the Bank gives 3*l.* 17*s.* 9*d.* an ounce, when at this moment I have not the least doubt they might buy it for 3*l.* 17*s.* 6*d.*

2479. That observation relates to gold?—To gold.

2480. Suppose the same facility to be given to the coinage of silver, and supposing silver to be equally pure as gold without a seinorage, what effect would that

that have on the silver bullion market?—It would affect the prices; the public would coin for profit, and never coin without.

2481. Would the price of silver in that case be more steady than it has hitherto been?—I should say yes, if made a legal tender.

2482. You think it would not produce any great change?—No; because at present our silver is 10 per cent. seinorage.

2483. But supposing the seinorage removed?—Then if they could buy the metal of the foreigner cheap, they would coin it dear; at least they would get a good price for it; if it was dearer than your standard of value, then there would be no coinage. Now, if it is left to the Bank, the public have the privilege of bringing their bank notes to the Bank, and getting cash when they please; and whether the price be 3*l.* 17*s.* 9*d.* or 3*l.* 17*s.* 10½*d.*, the Bank must coin.

2484. That is with regard to gold?—Even with the silver it would be the same.

2485. What is the greatest variation in the price of gold that you have known since 1816?—In 1825 to 1828 we purchased a large quantity of gold at 3*l.* 17*s.* 6*d.* In 1828 Mr. Rothschild brought a large quantity of gold from Paris, took it to the Mint and coined it into sovereigns; he then brought those sovereigns to the Bank, and made them pay equal to 3*l.* 17*s.* 10½*d.* for them, merely to put down in the coffers of the Bank. In consequence of that, I have no doubt that the Bank, to prevent the public coining, offer the price of 3*l.* 17*s.* 9*d.* per ounce, in any quantity and at all times, without reference to demand or supply.

2486. Then since 1828 the Bank price has remained fixed at 3*l.* 17*s.* 9*d.*?—Yes, for purchase, and 3*l.* 17*s.* 10½ *d.* for sale.

2487. Now what is the greatest variation in the price of silver in your recollection?—It is a very extraordinary circumstance, that at this present time, if silver was to be made the standard of value, I should recommend that the standard should be coined at the rate of Queen Elizabeth's time; that 62*s.* of standard silver should be coined out of the pound troy, instead of 66*s.*, which is the present rate. Some of our coin is 7½ per cent. worse by wear at the present moment.

2488. Were all Elizabeth's silver coin 62*s.* to the pound?—I forget whether the whole of it was, but I think it was.

2489. What variations have taken place in the coinage of silver since then?—Only from 62*s.* to 66*s.*

2490. When did it begin?—It began in 1816; the alteration took place then, by Lord Liverpool's recommendation.

2491. Why would you recommend that now, in case of a change?—Because it would not be cheating the public; it would be a fair remuneration for the price of the manufactured coin, brassage, and the expense of the Mint.

2492. Then is it your opinion that silver, if made a tender, should be coined with simply a brassage, for the expense of coining, added?—That would give a per-centage to the Mint; it would be most desirable to keep a reserve fund to make the coin, when light, a proper weight.

2493. What do you reckon the price of silver?—At present?

2494. Yes.—It is not quite 5*s.*

2495. What is the greatest variation you have ever known from that price?—At the time of the cash restriction, I think I recollect 7*s.* 6*d.* an ounce; but since that it has hardly ever varied from 5*s.* to 5*s.* 0½*d.*

2496. Are you able to form an opinion what the exact proportion between the value of gold and silver should be?—According to a calculation that I have made, it would be about 15 to one, as near as possible.

2497. On what ground do you make that calculation?—I calculate that the exchanges with France would then be about 25 francs; it is now 25 francs and 30 cents., I believe.

2498. And why would you make that difference between France and us?—Taking all the other countries as one, it seems to be the best proportion you can make between gold and silver; but you cannot always keep that due proportion; the foreign exports will affect the exchanges; if silver was fixed and the other free, you never would have your circulation disturbed, as it is at present.

2499. Are you able to state whether, since the two extensive houses for exchange have been established, within the last 10 or 15 years, the price of bullion remains more on a par in the different states of Europe than formerly?—I should

Mr. *M. Marshall*
Mr. *Haggard.*
27 June 1837.

say so, decidedly; and as we get more civilized, that will be still more the case; if you overtrade, you are sure to get the precious metals back again, because it is the par of your goods.

2500. Is not bullion coming in to England now very fast?—Yes, of course it would; we have been overtrading and overdoing things, and it must come in.

2501. Could you furnish a statement of the price of gold and silver at five or six of the different places in Europe at the same time, to make a comparison with the price in England?—No, I have no documents to prove that; but I have a very curious document, that may account in one respect for panics. From 1825 to 1836, we purchased gold for 98 months, buying a certain quantity, not every month consecutively, but I have taken from 1825 to 1836, and I find we purchased gold at the rate of 98 months; taking 1828 to 1833, that same quantity of gold goes away in 18 months; therefore for 98 months we are purchasing gold, which changes round and goes away in 18.

2502. Between those periods?—Yes, between 1825 and 1836.

2503. Then the gold which you had been accumulating for 98 months was drawn out in the course of 18?—It was bought of a great number of individuals for a considerable time, and then it was all taken away by one or two persons.

2504. Was it taken away in bullion, or issued in coin?—A great deal of it was taken in bullion, and a great deal in sovereigns; I think in 1825 there were not less than 7,000,000 sovereigns exported.

2505. Was the bullion sold at that time by the Bank at the usual price?—A good deal at 3*l.* 17*s.* 10½*d.*; they never sell at 3*l.* 17*s.* 9*d.*; they may take sovereigns at the same price.

2506. What conclusion do you draw from that statement, as to the price of bullion being nearly the same in the different countries in Europe?—I do not draw any conclusion from that at all; I merely draw this conclusion, that purchasing at 3*l.* 17*s.* 9*d.*, for any quantity and at all times, and selling the same at 3*l.* 17*s.* 10½*d.*, in any quantities and at all times, proves that we never buy gold if anybody else will give more for it, and we always sell it at that price if it is dear anywhere else; therefore it is an unprofitable transaction, and we are the storekeepers of gold for the world by those fixed prices.

2507. Would you not consider yourselves warranted, when large demands for bullion come to the Bank, to increase the price beyond 3*l.* 17*s.* 10½*d.*?—You cannot do it while your standard of value is 3*l.* 17*s.* 10½*d.*; you are obliged to pay your notes in sovereigns at 3*l.* 17*s.* 10½*d.*

2508. You are limited by having your notes payable in bullion on demand?—Yes.

2509. Do you charge anything for custody of bullion in the Bank?—Nothing.

2510. Is that the case in other countries?—No; in Paris they charge one per cent.

2511. For safe custody?—For safe custody.

2512. One per cent. a year, or for what period?—I think it is; I have been told so, but I cannot speak with certainty.

2513. Do you know what is the rate of the Bank of France in buying and selling bullion?—It has been a matter of surprise to me for many years the quantity of silver that has been purchased by the agents of the French mint Nearly the whole of the silver that has come to this country for many years past has been sent to Paris. Some little time ago, in the newspaper, there was an *exposé* of the transactions of the French bank. It was stated that bills were discounted for the minor departments of trade to the amount of 1,000 francs; or, I believe, they went as low as 100. Silver being there the circulating medium, these bills were paid in the coin produced by the silver that we had sent.

2514. In silver coin?—In silver coin; and that accounts for their having been enabled to part with such an immense quantity of silver among the people.

2515. Does that demand from France still continue?—Yes.

2516. What would be the effect, in your opinion, if silver should be made a tender here; would that raise the price of the metal?—A very little rise in the price would prevent their having it, because the profit would not be sufficient. We find that if a great quantity of dollars go to China or the Mauritius,

a little

a little higher price is given; the channel is changed; it does not go to France in that case, and therefore they can only do it for a small profit.

2517. You have had several years' experience; are you able to judge what per-centage profit would be sufficient to change the current of silver bullion?—I should think a halfpenny an ounce in silver would stop it.

2518. Do you recollect the large purchases that were formerly made for the China market?—Yes; Spanish dollars.

2519. At that time were the purchasers for the French mint the principal competitors in the market?—No; I think it is not a great number of years that the purchase for the French mint has arisen.

2520. Do you now receive silver from China or India?—We have not had any since the charter of the East India Company.

2521. Where does the silver bullion principally come from now?—From Peru and Mexico chiefly; and that is the only profitable return that is made in the precious metals, where it is produced in the country.

2522. And where does your gold come from now?—From the continent; Paris, Russia, Prussia or Hamburgh, and those places.

2523. Do you receive none from the Brazils?—Yes, we do; but nothing in comparison with the quantities we receive from the continent.

2524. From the coast of Africa?—We get gold dust from Africa sometimes; but I doubt very much whether the gold produced, except the large quantity from Russia, is sufficient to supply the gilding of the country.

2525. Where does Russia obtain its gold from?—From the Ural mountains; there, I believe, it is collected by slaves, at no expense.

2526. Have you any statement of the quantity produced in these mountains?—No; a very large quantity will come in to us, nearly 400,000*l.* value, within a day or two, from those mountains.

2527. How do you know it is from those mountains?—The Russian consul told me so.

2528. Will they take silver in return?—No; they will take bank notes for it.

2529. From what time have the imports from Russia begun?—In 1825 we had a large quantity, and we have not had any since.

2530. Are you able to state how that is produced now?—I am told they have a new process now; that it is done by fire, instead of washing. Formerly the earth was pounded, and the gold, being the heaviest, fell; it was washed.

2531. Sir *Charles Lemon*.] Are you at all aware whether that is likely to be tried in other places?—No doubt it will, if it answers; it is only a matter of surprise that it was not thought of before; it is possible it may be done by some of the gases.

2532. But you have not heard of the experiment being made in any other place than that?—Not at all.

2533. You are not aware whether there is anything particular in the nature of the ore which makes that process applicable in Russia and not elsewhere?—There may be larger quantities of gold in the masses; that would make it much easier, I should think. If there were smaller quantities of gold, and very large quantities of the grosser earths, it would be very difficult to get it out; I should think they must have a certain weight to precipitate it, but I am not chemist enough to be able to give an opinion upon the subject.

2534. The Committee wish to be informed whether you could offer any suggestions that would facilitate the bullion market, or the coinage at the Mint?—I should say that the public having the option of coining is very injurious; it is no benefit to the public, and very injurious to the Bank.

2535. Would you then limit the coinage entirely to the Bank?—Yes, under the control of the Government; it would be easily ascertained, by the gold coming in and the gold going out, whether the wants of the people were properly supplied.

2536. Do you not think that is better regulated by the competition which exists between the public and the Bank, and if the Government were not to interfere?—The public will never coin except on profit; and if the Bank did not wish to coin, they would be obliged to do so, because their notes are payable in sovereigns.

2537. Is it not right that the public should have the privilege of coining, if they can coin at a profit, rather than sell their bullion to the Bank at a loss?—

Mr. *M. Marshall* and Mr. *Haggard.*

27 June 1837.

But they do not coin it to give it to the people; they coin it for the sake of the profit, and make the Bank give them the difference between the market price and the Mint price.

2538. Is it not desirable that every merchant should make the best of his property?--Not at another man's expense.

2539. How do you mean at another man's expense?—If I could go into the market, and buy gold at 3*l.* 17*s.* 6*d.*, and make you give me 3*l.* 17*s.* 10½*d.* for it, I should say that would not be a fair position to place you in.

2540. If I have gold, which is valued at 3*l.* 17*s.* 10½*d.* in the coin of the realm, and the Bank refuse to give me 3*l.* 17*s.* 9*d.*, their usual price, making the allowance of 1½*d.* for the loss of interest for the coinage, do you not consider it would be an injustice to me that I should lose the difference between the 6*d.* and the 10½*d.*?—But why should that fixed price be? you may bring all the gold in the world here, if you choose to buy it.

2541. Is not the standard fixed at present by law?--Yes, for the sale, not for the purchase. Let the price of the gold be what it may in the market, you may pay it at 3*l.* 17*s.* 10½*d.*, but not receive it.

2542. Is there anything which obliges the Bank to pay more than that, except their own promissory notes promising to do so?—No.

2543. Then is it not a matter of calculation for the Bank, whether they shall issue more or fewer of their notes, and so increase their liabilities, considering the difficulties they may have with respect to the gold to meet that demand?—But I believe it is a very bad criterion to go on the precious metals coming into the country: take our present situation; we have been overtrading; there is very little doubt of that, I think; I think it very probable that you may have many millions coming in, because the debt is very much in our favour with the foreigner. In America, in particular, if paper is issued at the present time, with reference to the gold coming into the country, you will be issuing paper to men who cannot employ it: manufacture is overdone, and the merchant cannot employ it, except in paying his debts.

2544. Do you believe any man will take the notes of the Bank, and give value for them, unless they have use for those notes?—If you make money cheap, you will make speculation; money affects the prices of all things.

2545. But what injury can the Bank derive, on the supposition you have, of there being many millions coming in, if they can obtain the gold at 3*l.* 17*s.* 9*d.*, and issue paper for it at 3*l.* 17*s.* 10½*d.*?—They must keep it in deposit; if the public do not want it, they may keep 12 millions for 12 years.

2546. But what loss would they incur?—The loss of interest; I should think for 10 years you would not find six names of those whom you call the public who coin.

2547. Mr. *Labouchere.*] You attribute that circumstance to the present system upon which the Mint is conducted?—I think, in consequence of the public coining, the Bank give a higher price for the metal than they would do if the public had not that option, and I think we may buy gold of the foreigner now at 3*l.* 17*s.* 6*d.*

2548. Is the Committee to understand that it is your opinion that it would be a disadvantage to the mercantile interests of the community, if such alterations were made as to induce the holders of bullion generally to take it to the Mint for coinage?—There are no holders of bullion except the Bank; they cannot afford to hold it; they cannot even wait three or four days for the Mint to coin.

2549. Do you consider it a misfortune to the mercantile interests of this country, if the possessors of bullion are induced by the Mint regulations to take that bullion to the Mint for coinage?—I think to the public generally it is a mischief. I do not speak of individuals, because they make a profit, and it is serviceable to them; but I speak of the country at large.

2550. *Chairman.*] Why do you consider it a mischief to afford facilities to increase the coin of the realm?—Because these facilities merely give the parties coining a profit upon the transaction, at the expense of another individual.

2551. Is it not, in your opinion fair, that the option should be given to the holder of bullion to coin at the Mint at the same times as the Bank do, or to sell his bullion to another, if he should prefer it?—I do not think it is fair that the public should have the option of coining at the Mint, and bringing that coin

coin into the Bank at 3 *l.* 17 *s.* 10 ½ *d.*, because that difference must be paid by the Bank of England.

Mr. *M. Marshall* and Mr. *Haggard.*

27 June 1837.

2552. But what necessity is there for any man, taking sovereigns from the Mint in exchange for his bullion, to bring it to the Mint again?—Then where does he take these sovereigns; he takes them to the Bank and gets a profit. The nominal value of the coin is what the King's prerogative gives, but you are not bound to give that for the raw material.

2553. Have you not stated that the Bank is the principal buyer of bullion?—Yes, because nobody else will; they cannot hold it.

2554. Do you mean to say that the sellers of bullion should be obliged to go to the Bank?—Not at all, nor will they go to the Bank if anybody will give more.

2555. Should they not have liberty to go to the Mint and have it coined?—If the public wanted it, and they could circulate it among the public, it would be a very honourable and proper transaction.

2556. Will they coin it unless they can circulate it?—Yes, they coin it to bring it to the Bank.

2557. (To Mr. *Marshall.*) Could you prepare an estimate of the quantity of guineas that have gone through the Bank, either to be melted or coined, so as to ascertain the quantity that had been melted down since 1816?—Yes.

Mr. *Henry Bingley* and Mr. *Morrison*, called in; and further Examined.

Mr. *Henry Bingley* and Mr. *Morrison.*

2558. *Chairman*, to Mr. *Bingley.*] ARE you aware of the evidence that has been given to the Committee, of delays attending the coinage of bullion sent in by Messrs. Sharp, and can you account for or explain them, so far as relates to your office?—In consequence of the reference to the assay-office of the Mint during the late examination of Messrs. Sharp and others, I beg to state to the Committee, that the time taken up in assaying, so far at least as the King's assay-office is concerned, is no more than necessary for perfecting the standard fineness of the coin. The King's assay-office, however, could examine 20 gold pots, or 100,000*l.* in value, every day, and make a daily pyx of the same, if such a quantity could ever be daily required. The power of the King's assay-office is fully equal to the rest of the Mint. With reference to the time which Mr. Sharp's gold took in coining, I would state that it was owing to the regulations in force in our practice with the Bank, and Messrs. Sharp particularly desired, in furtherance of their experiment, that we should keep to our ordinary regulations as if coining for the Bank, otherwise the object of their experiment was defective; and they had made their minds up moreover to the loss of interest. In the case of Sharp, and other small importers, the Committee should bear in mind that all hurry is for individual advantage, but that the public may suffer, both as regards accuracy, good workmanship and expence. On every public urgency, the King's assay-office and the Mint generally have been at work till midnight, and even on Sundays, and would pyx every day if necessary. In the late panic in 1825, we worked at midnight, and on Sundays too.

2559. Mr. *Labouchere.*] Do you not consider that it is the duty of the Mint, when any bullion is brought there for coinage, to coin it as soon as possible?—Not in the late case of the Messrs. Sharp, because we were particularly requested not to do so; if we had deviated from our usual custom, they would not have been able to judge how long it took to coin 20,000*l.* at the usual rate.

2560. Suppose 20,000*l.* worth of bullion had been brought to the Mint, without any observation or request to have it coined as speedily as possible, do you suppose it would have been returned in a shorter time than it was returned in the case of the Messrs. Sharp?—No; because we should have gone on our usual plan.

2561. Do you not think it advisable that the usual plan should be to coin it with as much expedition as is consistent with the security of the public?—As a general rule, certainly; and I think it was not departed from in this instance.

2562. Can you suggest to the Committee any means by which the processes connected with your department might be made more expeditious, so as to enable the operations of the Mint to be somewhat less dilatory than they appear to have been in the instance of the Messrs. Sharp?—The operations of the assay-office can be as rapid as those of any other department, when rapidity is the chief object.

Mr. *Henry Bingley* and Mr. *Morrison*.

27 June 1837.

2563. Do you think that they are as rapid as they could be made consistently with the public security?—I think they are.

2564. It appears that, in this instance, the coin had to wait a certain time for what is called the regular pyxing day; would it not be possible for you to fix the time for pyxing as soon as the coin was delivered to you, without waiting for the regular days?—The pyx days have been fixed by the Board, with reference to the wants and demands of the Bank, and on this occasion it was not necessary to deviate from them.

2565. Do you not think it would be better that the Board should fix the pyxing days, not with reference to the demands of the Bank only, but with a view to return the coin from the bullion delivered to them as rapidly as possible?—Yes, if any new system were to be introduced into the Mint, which made the public coin much more frequently than they do at present; if the whole system were altered; but not under the present circumstances.

2566. But whether these operations are frequent or unfrequent, do you not conceive it is the duty of the Mint to any private individual to return his bullion to him in the shape of coin as rapidly as possible?—Yes, as a general rule, but not in the case of the Messrs. Sharp, for the reasons I have stated.

2567. Did you not say, in a former answer, that even if that particular request had not been made, the same delay would still have taken place?—Yes, because Mr. Sharp was peculiarly circumstanced. The Bank, when he sent in, withdrew every farthing out, and we were obliged to work theirs out to the very last farthing. It was that that caused the delay; if you could get an importer to send in 20,000*l.* every day, we should have no difficulty in coining it every day.

2568. *Chairman.*] Would not the difficulty be met by there being a certain amount on hand, by which the coinage could go on, and the delivery be made from other coin than that produced by the metal delivered in?—If we had had a stock on hand at this time, there would have been no delay; but the Bank had drawn it all out, in order that there should not be any stock in hand.

2569. How many days, in your opinion, would be required from the importing of the bullion into the Bank to its completion, and delivery as coin, if due expedition, such as is capable of being used, were exerted?—Would you name any amount?

2570. Say 20,000*l.*, 30,000*l.* or 40,000*l.*?—We could return it as soon as the master's assay-master had verified the ingots and given them a value; if we had a fund in hand, we could give it them at once.

2571. Mr. *Labouchere.*] Is the Committee to understand that the difficulty which is experienced at the Mint, of rapidly coining a small sum, consists in the scale upon which the Mint machinery is formed, and which renders it difficult and expensive to put it into operation for a very small sum?—I conceive so, to a great extent.

2572. *Chairman*, to Mr. *Morrison.*] You were requested to prepare an account of the bullion in the strong room of the Mint on the 1st of February, and of the coinage between that and the 18th, when you began Mr. Sharp's coinage?—Yes. I produce it. [*Producing the same.*] It shows that the balance which belonged to the Bank on the 1st of February was 694lbs. 5oz. 2dwts. 23grs. Then, on the same day, Mr. Sharp brought in ingots amounting to 224lbs. weight; on the 2d, he brought in another parcel, amounting to 85lbs.; and on the 3d, another parcel, 103lbs.; so that the total amount of bullion brought in by him on the 3d of February was 412lbs. weight, making, together with the Bank balance, the total amount of 1,107lbs. weight of bullion in the Mint. The Bank balance was in work on the 1st of February. The first importation of ingots from Mr. Sharp was assayed and potted on the 3d; the second and third importations were assayed and potted on the 7th. On the 7th we had bullion in work 1,107lbs.; on the 10th we received scissel returned to melt 375lbs. On the 8th the melter had put into work, and there was assayed and delivered 777lbs. of that which was in work; and the scissel returned to melt, 375lbs., showed that half of that was in money at that time. It is not necessary to go through the whole of this, but we did not pyx till the 18th, though we had coined on the 8th two thirds of it. It was the custom of the Mint not to pyx till we had got a sufficient quantity.

2573. Mr. *Labouchere.*] Why not?—If we had done so in the case of Mr. Sharp,

Sharp, he would not have been able to state the average time in which bullion was delivered as coin.

2574. *Chairman.*] Was there any objection to your fixing the pyx as soon as the coin was finished?—The objection with the Bank would have been, that they would have had to send down to cashiers to receive a small sum, instead of coming at once and receiving the whole.

2575. Suppose the importer had no objection to receive it in such quantities as were then finished, would there be any objection to his so receiving it?—Not at all, and we should have given it to him if he had wished it.

2576. Is the Committee to understand that the delay in the delivery of Mr. Sharp's parcel arose from your having taken the same course with respect to it as you had been in the habit of taking with respect to the Bank, and that the Bank did not consider it necessary to hurry beyond that period?—Yes.

[*The witness delivered in the following Account:*]

AN ACCOUNT of the GOLD BULLION in the Mint for Coinage on the 1st February 1837, and the Coinage between that and the 18th February, when Mr. Sharp's Coinage began.

Gold Bullion received at the Mint for Coinage within the above period:

		lbs.	*oz.*	*dwts.*	*grs.*	*lbs.*	*oz.*	*dwts.*	*grs.*
1 February 1837.	The balance due to the Bank - - - -					694	5	2	23
—	Ingots from Mr. Sharp - -	224	–	13	–				
2 February 1837.	Ditto - - ditto - -	85	8	2	15				
3 February –	Ditto - - ditto - -	103	–	1	18				
						412	9	16	9
	Total Bullion in the Mint - - - -					1,107	2	19	8

The Bank balance was in work on the 1st February.

The first importation of ingots from Mr. Sharp was assayed and potted on the 3d February; and the second and third assayed and potted on the 7th February.

MELTER.

Bullion in Work.

		lbs.	*oz.*	*dwts.*	*grs.*
7 Feb. 1837 - -	1,107	2	19	8
10 Feb. –	Scissel returned to melt -	375	–	–	–
16 Feb. –	Ditto -	195	–	–	–
		1,677	2	19	8

Produce in Standard Bars.

		lbs.	*oz.*	*dwts.*	*grs.*
8 Feb. 1837.	Assayed and delivered.	777	7	19	–
10 Feb. –	Ditto -	205	10	10	–
14 Feb. –	Ditto -	374	4	9	–
18 Feb. –	Ditto -	*289	5	14	–
		1,647	4	12	–

* Could not be brought into work till after the 18th.

MONEYERS.

		lbs.	*oz.*	*dwts.*	*grs.*
8 Feb. 1837	Bars received.	777	7	19	–
10 Feb. –	Ditto	205	10	10	–
14 Feb. –	Ditto	374	4	9	–
		1,357	10	18	–

		lbs.	*oz.*	*dwts.*	*grs.*
10 Feb. 1837	Scissel delivered	375	–	–	–
16 Feb. –	Ditto -	195	–	–	–
17 Feb. –	Monies pyxed.	780	–	–	–
		1,350	–	–	–

Mr. *Henry Bingley* and Mr. *Morrison*

27 June 1837.

DELIVERIES.

		lbs	oz.	dwts.	grs.			lbs.	oz.	dwts.	grs.
1 Feb. 1837	Bank bullion.	694	5	2	23	18 Feb. 1837.	Paid off -	694	5	2	23
		lbs.	oz.	dwts.	grs.			lbs.	oz.	dwts.	grs.
3 Feb. –	Messrs. Sharp.	412	9	16	9	18 Feb. –	Paid in part	75	–	–	–
							Balance due to Messrs. Sharp.	337	9	16	9
		412	9	16	9			412	9	16	9

Mint Office, 24 June 1837. *Jas. W. Morrison*, Deputy Master.

2577. You were also requested to refer to the books, and furnish the Committee with a return of the shortest period in which you can find ingots have been coined at the Mint; have you prepared such a return?—I have. (*Producing the same*).

2578. Will you state the result?—There was a balance in the Mint on the 30th of November 1835, amounting to 3,543 lbs. weight. From the 16th to the 30th of December there was brought up sufficient to make up the whole sum in the Mint 18,992 lbs. weight. A delivery was made on the 3d of December; and on and after the 17th deliveries were made nearly every day; on the 17th, 18th, 20th, (a Sunday intervening), on the 21st, 22d, 23d, 24th, 26th, 28th, 29th and 31st, there were regular pyxes.

[*The Witness delivered in the Account, as follows:*]

A RETURN of the Shortest Period in which Ingots have been coined at the Mint.—*See* Question 2224, p. 159.

AN ACCOUNT, taken from the Mint Ledger, of the Importations and Deliveries of Gold Bullion during the Month of December 1825.

IMPORTATIONS.					DELIVERIES.		
1825:	lbs.	oz.	dwts.	grs.	1825:	Sovs.	lbs.
Nov. 30. To balance - -	3,543	10	9	16	Dec. 3. Journeys -	120	1,800
Dec. 16. 100 Ingots - -	1,489	2	16	2	17. ditto - -	50	750
17. 101 ditto - - -	1,489	3	1	16	18, Sunday. ditto - -	118	1,770
18, Sunday. 101 ditto - - -	1,489	8	9	17	20. ditto - -	82	1,230
19. 102 ditto - - -	1,490	8	1	11	21. ditto - -	100	1,500
20. 102 ditto - - -	1,489	5	6	7	22. ditto - -	100	1,500
21. 102 ditto - - -	1,489	4	6	13	23. ditto - -	74	1,110
22. 102 ditto - - -	1,489	4	3	16	24. ditto - -	80	1,200
24. 106 ditto - - -	1,946	2	7	15	26. ditto - -	75	1,125
24. 51 ditto - - -	700	4	10	1	28. ditto - -	40	600
27. Guineas, and half ditto	428	0	13	4	29. ditto - -	40	600
28. 28 Ingots - - -	457	3	0	5	31. ditto - -	57	855
30. 71 ditto - - -	1,489	8	13	11			
Lbs.	18,992	5	19	14	*Journeys*	936	14,040

Mint Office, 24 June 1837. *Jas. W. Morrison*, Deputy Master.

2579. By this account, it appears that the delivery on each of these days was very nearly equal to the amount of the parcels received?—Yes, making allowance for the balance in hand at the commencement; so that we were enabled to furnish deliveries every day of as much as was wanted.

2580. The quantity then coined being considerable, you had pyxes every day, to prevent delay?—Yes, because we were urged.

2581. And

2581. And there is no reason why that should not be the case whenever it is required?—No.

2582. Mr. *Labouchere,* to Mr. *Bingley.*] Are there any further statements which you are desirous to make to the Committee?—Yes; I would say that the Bank, in their system of coining, are influenced only by the wants of the public. The check officers of the Mint have always participated in this feeling; the Bank coin as much and no more than the public demand. With reference to the question 2240, as proposed by the Chairman at the last meeting, I would state distinctly that the regulation alluded to is owing to the previous character of the King's assayer for accuracy, although I do not deny that the regulation, once established, may be a further inducement towards the employment of the King's assayer for private assays. With reference to question 2243, I would state that the King's assayer never has but one fee upon the same ingot: I cannot tell how the idea of two fees originated.

2583. *Chairman.*] Is the Committee to understand, that if you have assayed a bar before its importation into the Mint, and have been paid for that assay, you are also paid a fee for the assay when it is potted in the course of coinage?—Certainly not. If I have been paid a fee on an ingot once, I am never paid again upon it, in the state you describe; I never have but one fee, and never had.

2584. Mr. *Labouchere.*] Then in point of fact, as your private assay mark is upon all the ingots brought to the Mint for coinage, you never receive any public fee as King's assayer?—Never; except in the case described in my report of an ingot coming which has not been previously examined by me, and then I am obliged to do it. The fee I charged to Mr. Sharp was the first public fee I received since I was appointed, which is 18 months.

2585. With respect to those ingots of Mr. Sharp's, for which you charged the fee of 5 *s.*, had you not assayed them privately before?—Never, otherwise I should not have assayed them at the Mint.

2586. *Chairman.*] Is the Committee to understand that whenever an assay has been made by you for an individual who sells gold to the Bank, if that gold is afterwards sent to the Mint to be coined, you do not charge for assaying it?—Certainly I do not. There is no further expense as regards the King's assayer.

2587. Is the Committee to understand that the fee paid to you for the private assay is all you receive if that bullion is sent into the Mint for coinage?—It is the only fee I receive.

2588. Have you anything else to state to the Committee?—Yes. With reference to question 2,255 and the following questions, I must state, on the authority of the late King's assayer, as well as my own, that the Bank have not, as a general rule, bought upon any assay but that of the Mint, not only for the last 25 years, as has been stated, but not during the 50 years of my predecessor's appointment in the Mint; and not only that, but during the time of his predecessors, Mr. Alchorne and Mr. Harris, a period of more than a century. With reference to the time taken for private assays, and the charge made, I would state that the King's assayer takes no more than is necessary to secure perfect accuracy, and his charge is in reference to what he considers a remuneration for his time and skill. I believe there is no established business in London which may not be done both at a quicker and a cheaper rate. The Committee are perhaps not aware of the charges of the bullion brokers for merely effecting the sale of a gold ingot of 15 lbs. weight. Where the King's assayer charges 5 *s.*, they charge 35 *s.* How small therefore is the comparative expense of the assay to the holder of the bullion. With reference to question 2339, I would state that the trial plate was submitted to the King's assayer, and ordered to be remelted by him several times before it was correct. I think I stated this before.

Jovis, 29 *die Junii*, 1837.

MEMBERS PRESENT.

Mr. Thomas Baring.	Mr. Hume.
Mr. Clay.	Sir Charles Lemon.
Mr. Ridley Colborne.	Lord Viscount Lowther.
Sir Thomas Fremantle.	Mr. Parker.
Mr. Herries.	Mr. Wall.

THE RIGHT HON. HENRY LABOUCHERE, IN THE CHAIR.

Mr. *Henry Bingley* and Mr. *Barton*, called in; and further Examined.

Mr. *Henry Bingley* and Mr. *Barton*.

29 June 1837.

2586*. *Chairman*, to Mr. *Bingley*.] SINCE you were last examined, have you turned your attention to the question of adding alloy to the gold scissel pots?—Yes, I have.

2587*. Will you have the kindness to state to the Committee whether you think any improvement can be effected upon the system upon which that operation is at present conducted?—In consequence of the wishes of the Committee, as expressed during a recent examination on the subject of the alloy question in the Mint, I was induced, at the next meeting of the Committee, to address the following letter to the Chairman:—

"To the Chairman of the Mint Committee.

"The King's assay-master of the Mint having been desired by the Mint Committee to turn his attention particularly to the question of the alloy to scissel pots, as it now stands between the public, the comptroller and the melter, begs to state that he hopes shortly to lay before the Committee such a plan and arrangement as will do away with the melter retaining any profit from alloy as a perquisite, and also obviate any unnecessary delay in the expedition requisite in coinage. The King's assay-master begs further to state, that, from his practical knowledge of and exclusive insight into the state of the melted pots, as also into the state of the pyxes subsequent to coinage, he thinks it will be in his power to recommend to the Committee an alteration in the present system, whereby the profit arising from alloy may be made greater to the public than it ever has been to any individual. The King's assayer considers that from his plan a fund will arise, which would not only be of avail for the adjustment of scissel pots, but leave a surplus in the hands of Government for the public advantage. The King's assayer requests the indulgence of the Committee in allowing him sufficient time to follow out the details of his plan."

2588*. Since you wrote that letter, have you prepared the plan which you allude to?—Yes, I have entered into the details I allude to.

2589. Have the goodness to state them to the Committee?—I should begin by stating, that unless the Committee had signified their wish to do away with the practice of the melter retaining alloy as a perquisite, and unless the melter had expressed his readiness likewise to accept of a different mode of remuneration in lieu thereof, I should hardly have felt myself justified in bringing my view of the subject before them; and in this respect the principle of compensation throughout my plan, will, I think, be found to differ materially from that of Mr. Barton. The master's assay-master likewise having expressed, in his evidence before the Committee, his readiness to accept compensation, either by increase of salary or otherwise, in lieu of the fees now paid him by the importers, I have no further hesitation in laying my plan before the Committee.

I think it desirable, in my present statement, to enter at once upon what I consider the most important part of the future arrangements I have in view, namely,

Mr. *Henry Bingley* and Mr. *Barton.*

29 June 1837.

namely, the profit that may be derived to the Government from the future regulation of the alloy. I have by me a letter, which, at the death of the late Mr. Mushet, and on the accession of the present melter to his office, I had intended to send to the Mint Board. It was as follows:

"Gentlemen,

"As an alteration in the practice of any office in the Mint cannot take place at a better time than when that office is receiving a new occupant, I cannot let the present occasion pass, of there being a new appointment to the meltings, without offering a few remarks in connexion with such appointment. The King's assayer is under the necessity, in a due regulation of the fineness of the melting pots that are to pass into work, to order occasionally so much alloy to be added to the scissel pots, to produce the correct standard. Many causes combine to make this adjustment necessary, and hitherto this profit has fallen to the melter. This of course only alludes to those small additions of alloy which have become necessary from the refinement and manufacture of the metal. Were there any greater regulation of the pots necessary, it would be effected by a fresh combination. It must, however, be at once obvious, how even in this comparatively small way the report or adjustment of the metal by the King's assayer affects the profits of the melter. I feel assured that the strict discharge of the duty of the King's assayer ought not, when it can be avoided, to lead to the profit or loss of any individual in the establishment, and that he should not be exposed to the fear of inflicting injury by the conscientious discharge of his immediate duty. The taking away all profit or loss from the melter, by the addition of or the withholding of alloy alluded to, is now recommended by the King's assayer, who, although he has never been swayed by feelings of private interest in the discharge of his duty, cannot be insensible to the awkward situation he has often been placed in with regard to the melter in this performance of his duty. If this suggestion and arrangement should be injurious to the melter, and be the means of depriving him of the least portion of profit enjoyed by his predecessors, this would be a subject for the Mint to remedy. I hope these remarks will induce you to take into your consideration a state of things which the King's assayer has often felt to call for alteration." I was deterred, however, from sending this letter, from the fear, at that time, that it might lead to withholding alloy from the melter without substituting any compensation whatever; and further, because I then considered that by the system in practice expedition in the settlement of stop-pots was promoted. I bring this letter now before the Mint Committee, to show that I was then, and am still, averse to the principle, taken abstractedly, of the melter having alloy to his own advantage. I will now request the Committee particularly to attend to the proposition I am about to make; it will, I think, be found as applicable to a system of contract as it is to a system of salary,—as applicable to the English as to the American Mint; the question of waste in the contracts may be remotely affected by it; but if it should, it will receive ample justice at the hands of the Committee. I neither propose any seniorage, nor any taking advantage, as in the French mint, of the remedies allowed by law; I wish the Mint merely to act upon the principles already laid down for its guidance, to act up to those principles more strictly; and from this alone I propose to afford to Government the advantage I have held out. Let me now direct the attention of the Committee to the case of any importer, whether an individual or the Bank of England, bringing, I will say, 100 ingots of gold to the Mint for coinage; if these ingots have been previously melted by Brown & Brind or the Mint melter, and previously assayed by the King's assayer, (for the necessity of which see my First Report upon the subject,) then the importer will in all probability gain half the number of eighths upon these ingots; supposing them to average 15lbs. weight, the importer will gain nearly 20*s.* on each of the 50 ingots, or nearly 50*l.* This, however, has no further connexion with my present proposition than to show you the probable gain on an importation of 100 ingots: the importer has always had this, and it is no part of my plan to take it away from him. When we reported to quarters, instead of eighths, the advantages of the importer were doubled. However, to recur to these 100 ingots again, we will suppose that the master's assayer, by his art, should so examine and combine these ingots, that, could they be melted by the melter and coined by the moneyers without any refinement whatever in either department, the coin would turn out exactly or mathematically standard. Now, it is known that the melter, if he melt properly, must refine; it is known

Mr. *Henry Bingley* and Mr. *Barton*.

29 June 1837.

that the moneyers refine; these 100 ingots, therefore, although so combined by the Master's assayer as to produce exactly standard, on my former supposition must, by the operation of melting and coining, be somewhat finer than standard. Let me now bring the Committee from this point to the real state of our practice at the Mint. It must be obvious to the Committee that no master's assayer could be ignorant of the fact of the refinement I have alluded to. What influence, then, must this have upon his practice? He knows that, according to our present system, if his combinations are made exactly standard, the coin that issues from these combinations must be too fine. The usage of the Mint has not hitherto, though I cannot tell why, allowed alloy to be added to ingot pots to meet the average refinement; the master's assayer, therefore, has no alternative, but to commence by making his combinations somewhat under standard, under the full certainty that the effect of melting and the effect of coining will make the money good enough. Now what is the effect of this upon the importer? Why it is altogether an additional advantage. He not only gets his eighths, as I have described before, but his ingots are reported a shade better than they otherwise would be, to meet the refinement that takes place within the Mint. I would not have the Committee infer that the refinement in the Mint is obviated altogether by the above practice of the master's assayer. This officer, from his great desire for accuracy, and from his wish that the metal examined in the shape of pots, should be as near standard as possible, may not make this remedy apply to the whole extent of the evil; and the consequence is, that when the pots, by the refinement of the melter, are brought up to standard, the coin, by the refinement of the moneyers, is better than standard. Such is a portion of the system I wish to obviate, because it gives an undue advantage to the importer, and withholds from the public an advantage they ought to possess. To enable the Committee practically to understand the present system, I would refer them to the printed tables laid before the House of Commons; it will be shown there, that 1,077,149 lbs. weight of gold ingots, and 934,243 lbs. weight of gold scissel, were melted during the 15 years those returns embrace. Suppose I say 1,000,000 lbs. only of ingots; now, if to this had been added only two grains per lb. of alloy, the public might have derived from this source alone, independent of the alloy to scissel, nearly 17,000*l.* The total number of pounds weight, including scissel as well as ingots, are more than two millions in those 15 years; so that had the system I now propose been acted on, and upon the computation of only two grains of alloy to the pound, the public might have derived an advantage of nearly 35,000*l.*, that coinage from the alloy added. If three grains had been added, which I think might possibly happen under my proposed plan, a sum of 50,000*l.* would have arisen. To render my view more intelligible still, I will lay before the Committee an abstract of the principal regulations which relate to this fund: first, let the master's assayer be paid by Government, instead of the importer, and he has already testified his approbation of this plan; secondly, let it be obligatory on the master's assayer to make his combinations of the ingots, previous to melting, come up fully to standard, which can always be effected by his single assay, with the usual reference to the previous reports of the King's assayer; thirdly, let the King's assayer order publicly, through the Mint office from time to time, such addition of alloy to ingot pots as his examination of the metal subsequent to melting, and his examination of the coin subsequent to manufacture, enable him to know will meet the refinement that must ensue; fourthly, let the King's assayer continue to act as he has always done with regard to scissel pots, namely, order such alloy as his practice and experience enable him to judge to be necessary; fifthly, let all scissel be melted without ends or scrapings, or other admixture. Now, in this recommendation, I think I do not interfere with any one established principle of coinage, as found in the Mint indenture or elsewhere; I merely propose to do away with one or two imperfections that have crept into our system, and by a very simple method to revert to what I conceive to be a more sound and legitimate practice. It never can be right, abstractedly, that an importer should have credit for more fine metal than his ingots contain, because it is known that the operation of coining will refine the metal. The contract of the moneyers and the melter does not permit of their claiming that advantage to be derived from the addition of alloy, because they are to bear, by virtue of their contract, all waste that ensues: surely, then, there can be no question as to the right of Government to this advantage,

advantage, which in large coinages must be considerable indeed. The present melter's claim to compensation will rest, not on contract, but on usage. He has testified also publicly his readiness to receive such compensation; so that I trust for the future the public, and the public alone, will be interested in the quantity of alloy that the King's assayer may think it his duty from time to time to order.

There is a point connected with this subject which, as King's assayer, I must strongly recommend; I have already alluded to it in my fifth regulation; it is not only necessary under the new system I propose, but I think ought never to have been sanctioned under any system. It is a practice that prevails in the melting-house, of mixing other metal with scissel, beyond the mere scissel itself. It is impossible for a King's assayer to calculate the refinement of melting, and make his regulations accordingly, if scissel is to be combined with melter's ends, as they are called, with scrapings of pots or other admixture. I do maintain that ingots alone, or scissel alone, should come before the King's assayer for his examination; and that every other denomination of metal should be melted *en masse*, and sent to the master's assayer for a fresh combination. I have no hesitation in mentioning this, because, if this regulation presses upon the melter, it will meet with due consideration at your hands. It is a practice, I believe, of recent origin, but one which the present melter found in existence on his accession to the office; it is however a practice against which, on public grounds, and under any system, I feel bound to protest: I conceive it to be an indirect method of adding alloy to scissel at the option of the melter himself. I have stated to the Committee, in a previous part of this subject, that my proposition would bear indirectly on the question of waste, as included in the contracts of the moneyer and melter, though not otherwise on the contracts themselves. My present plan is founded on the Government deriving the advantage incurred by refinement; the more, therefore, the melter and moneyers refine, the more Government would gain. Government pays these parties a price that remunerates them for the loss they sustain by refinement; but should they by any possibility refine less than has hitherto been the practice, so much less would be the profit to Government, and increase of advantage to themselves. Whether or not, therefore, the question of waste by refinement should be separated from contract, I would leave to the Committee to determine. These recommendations are founded upon the practice with regard to refinement that has for a length of time existed, and I have no reason to anticipate less refinement than has been usually practised; my proposal, therefore, might be put in practice upon the present Mint system, both of contract and waste, without involving any change in these particulars. It will be obvious to the Committee, that in thus remedying the refinement that takes place in the Mint, the King's assayer will form his judgment from the state of the monies subsequently to coinage, as also from the state of the pots subsequent to melting. His examination into these matters is a practical proof of the refinement that has taken place; the Committee will at once see, therefore, that he must continue to have uncontrolled jurisdiction as to the quantity of alloy he may deem it necessary from time to time to add, previous to the melting either of ingots or of scissel. I need not enter into detail further here, regarding the treatment of stop-pots subsequent to melting, than to state that it is my opinion that a stopped ingot pot should return to the master's assayer, while a stopped scissell pot should be remedied, on the report of the King's assayer, by immediate calculation in the Mint office, and without reference to the master's assayer. In all cases of alloy added, by my report through the Mint office, the direct way appears to me to be to make the melter chargeable back to the Mint office for an amount of standard metal equal in weight to the alloy added. I would suggest to the Committee, that it is desirable, in my present plan, that the King's assayer should be occasionally furnished from the Mint office with a copy of the reports of pluses, and the potting generally of the ingot pots that come before him for examination; it is satisfactory that the King's assayer, when he wishes it, should confirm his experiments by his knowledge of the previous composition and rating of the ingots: this must tend to the accuracy of the result as regards standard fineness, as well as promote the advantage of Government. In this new arrangement, I propose that the silver coinage, as regards alloy, be under the same arrangement as the gold, although from the present system, as regards silver, it is obvious that the plan is more profitable as regards the gold alloy.

Mr. *Henry Bingley* and Mr. *Barton*.

29 June 1837.

If the Committee approve of my suggestions, as regards their principle and practicability, I have only to state, that I consider they all bear upon the subject I have in view, and that no one could be safely left out without injuring the efficiency of the remainder. In the practical part or working out any new measure, it is obvious that the co-operation of the Mint officers generally is requisite to its complete success. This co-operation, I hope will be readily given. I may state that I have submitted this plan to the late King's assayer, and it has his entire approbation. I will now subjoin the regulations at full connected with the subject, only hoping that if they are not compatible with a just regard to the interest of every Mint officer concerned, they may be at once discarded.

"The King's Assayer's proposed Regulation respecting Alloy and Stop-pots.

"First, that it shall be the object of Government to derive whatever advantage may arise by the addition of alloy which becomes necessary to meet the various refinements that take place during the conversion of bullion into coin. Secondly, that as Government, by the existing contracts and agreements with the melter and moneyers, does not allow of these parties appropriating such advantage to themselves, Government alone, therefore, can claim this advantage. Thirdly, that the advantage held out to Government has been hitherto enjoyed partly by the melter, partly by the importer and partly by a shade of betterness in the coin; the advantage to the importer being over and above that which he is entitled to, namely, that of eighths upon the ingots. Fourthly, that the master's assayer should be henceforth paid by increased salary, instead of fees, for the assays he makes. Fifthly, that henceforth it be a rule that the master's assayer shall make his combinations of the ingots imported previous to melting come fully up to standard, and to effect this with certainty, he, in addition to his own single examination or assay, may always have recourse to the previous reports of the King's assayer. Sixthly, all scissel melted by the melter be melted without any addition of melter's ends, scrapings or other material, save only with such addition of alloy as may be publicly and from time to time ordered by the King's assayer. Seventhly, that melter's ends, scrapings and other produce of the melting-house be melted separately, and returned to the master's assay-office as melter's supply. Eighthly, that all ingot and scissel pots stopped by the King's assayer, for bad melting or mixing, be remelted immediately, at the melter's expense. Ninthly, that every ingot pot stopped for any other cause be returned at once to the master's assayer, for a fresh combination. Tenthly, that any scissel pot so stopped be adjusted at once by the King's assayer's report and Mint-office calculations, without such scissel pot returning to the master's assayer. Eleventhly, that the melter be paid for remelting every stopped pot, unless such pot has been stopped for bad melting or fault in the melting-house. Twelfthly, that for the interest of the Mint generally, and the furtherance of the alloy fund, the rule be continued, that no ingots of gold or silver be received into the Mint for coinage, unless previously melted by Messrs. Brown & Brind, or the melter of the Mint, and previously assayed by the King's assayer, with his reports attached. Thirteenthly, that the King's assayer order publicly, through the Mint office, from time to time, such addition of alloy to ingot pots as his exclusive examination of the metal subsequent to melting, and his examination of the coin subsequent to manufacture, enable him to know will meet the refinement that ensues. Fourteenthly, that the King's assayer continue to act as he has always done with regard to the alloy to scissel pots, namely, order such alloy publicly, through the Mint office, as his practice and experience enable him to judge to be necessary. Fifteenthly, that a correct Mint office account be regularly kept of the profit arising to Government by the additions of the alloy ordered by the King's assayer. Sixteenthly, that the King's assayer be furnished from the Mint office, at his option, with an account of the composition of any set of ingot pots that come before him for examination. Seventeenthly, that the direct way of bringing the alloy to the public account, is to make the melter chargeable to the Mint office for so much standard metal as equals in weight the alloy added. Eighteenthly, that as the King's assayer, having allowed gold or silver pots to pass into work, is then responsible for the state of the money, he shall continue to exercise his free discretion as to stopping any pot his judgment may consider necessary. Nineteenthly, that it shall be the object of the King's and master's assayers to act in unison, for the correct standarding of the coin, and securing

to

to Government all the advantage derivable from the proposed regulations. Twentiethly, that every facility be afforded by the Mint officers and clerks concerned in carrying these plans into execution, and that the Mint Board give from time to time such directions as may promote the working of the proposed system.

2590. Are the Committee to understand that the master's assayer has seen the plan you have submitted to us, and acquiesces in it?—No, it originates altogether from the King's assayer.

2591. The master's assayer has not seen it?—No.

2592. Nor any other officer?—No, with the exception of the late King's assay-master.

2593. (To Mr. *Barton*.) You have heard the alterations proposed by the King's assayer; do you agree with him in opinion that it would be desirable to adopt those changes?—I agree entirely with him in opinion, as far as his plan goes, to keeping up the standard, without reference to meeting or anticipating the refinement. I have no hesitation in saying that this might be done; but I think it is a question which ought to be entertained by the Committee, or by the Government, in fact, as to the legality of it, and as to whether it would be proper to do it.

2594. In what respect do you mean?—Because you are bound by law to give the full value of the bullion to the importer.

2595. Mr. *Herries*.] Do you think there would be any danger of ultimate inaccuracy arising out of that practice, as proposed?—No, I think not; I think there is no danger of inaccuracy arising, but that there is danger of a question arising with the bringers of bullion to the Mint.

2596. Do you think it infringes at all upon any rights that the importers have at present, as importers, to the full value of the combined ingots; do you think it would diminish their profits or advantages in any way which would be injurious to them, and beyond what the public would have a right to take from them?—No, if the alloy added is over and above what the master's assayer determines as the full value of the bullion, it would not interfere with the rights of the importer.

2597. Then they would still, under that plan, derive the full value of the master's assay to them?—Yes.

2598. But they do now practically derive some advantage beyond that?—Not that I am aware of.

2599. (To Mr. *Bingley*.) Do they derive a small advantage beyond that?—A very small one, but that nobody has an opportunity of knowing but myself. It has an influence upon the practice of the master's assay-master, which gives them a benefit.

2600. *Chairman*, to Mr. *Barton*.] Are you prepared to say, on reconsideration, that the alteration proposed by Mr. Bingley would interfere with any legal right which the importer of bullion now has at the Mint?—No, I should say not, certainly, on reconsidering the case, supposing he has the full value given to him in the first instance.

2601. Mr. *Baring*.] Then the advantage the importers have now is not a legal advantage?—They have no advantage now over and above that which they are properly entitled to.

2602. Mr. *Hume*, to Mr. *Bingley*.] In the plan you have submitted, do you contemplate the system now existing, of contracting with the melter and with the moneyer, to continue as before?—I have stated that I conceive my plan to be applicable to the present system, and equally applicable to a system of salary, or any other system.

2603. You have stated an example of 100 ingots; will you explain how the half of the number of eighths will be saved, how that saving takes place?—I have stated that in bringing 100 ingots to the Mint, the importer in all probability would gain half the number of eighths.

2604. More than he now does?—No, that is the present regulation; he does now gain about 50 eighths in 100.

2605. Is the Committee to understand, that by the regulations of the Mint at present, it was not contemplated that the melter should have any profit by the addition of alloy, but that in practice he has had it?—The contracts with Government do not give him the advantage, but usage has given it to him.

2606. Usage has given him an advantage over and above that which his contract avowedly gave him?—Certainly.

Mr. *Henry Bingley* and Mr. *Barton*.

29 June 1837.

2607. Was that advantage, when you calculated by fourths, instead of eighths, double what it now is?—No, it made no difference to the melter.

2608. To the importer it did?—Yes, but not at all to the melter.

2609. The same profit then has existed to the melter throughout, though you have altered the rate to the importer?—Yes.

2610. You have stated that the importer ought not to have the advantage of more fine metal than he brought; will you explain what you mean by that?—I mean that the master's assayer should make his reports of the ingots such that the result should be absolutely standard; not that he should report them a little too fine, and therefore give the importer an advantage merely to meet the refinement that would afterwards ensue.

2611. But you have also said that whilst the melter ought not to receive profit, the Government alone ought to have the profit; why should the Government have profit?—When I say Government, I mean the public: if no part of the Mint has a right to claim it, the Government surely have the right.

2612. Are we to understand that, by the present practice in the Mint, the coin on the whole is a shade better than the standard plate?—It is a shade better.

2613. Then, if that which you recommend were carried into effect, the coin would be strictly standard, and not better?—That would be my object.

2614. Then is the advantage which you contemplate to the public that little shade which would arise between the present state of the coin and the standard that it would be?—No, I have stated that that forms only a part.

2615. What is the date of the letter which you have read?—April, 1828.

2616. You have stated that the present practice of adding ends to the scissel is bad, and that you would recommend that being discontinued; why is it bad?—Because, in my opinion, it tends to debase the standard metal.

2617. Are we to understand that all the assays should be paid by the Government, and not by the importer?—The master's assayer stated that he was ready to receive an increased salary instead of his fees.

2618. Will you explain what the effect, in your opinion, would be, of having these assays of the master's assayer paid by the public, instead of by the importer?—I think that the natural effect of the master's assayer being paid by the importer, is to give him not only every possible advantage, but in some cases to carry it a shade beyond the advantage to which the importer is entitled.

2619. Then it is your opinion that if an increased salary was paid instead of fees, a more accurate assay on the whole would be afforded?—I think it would tend to make the money more completely standard, in connexion with my plan.

2620. Sir *Thomas Fremantle*.] Is it part of your proposed plan to relieve the importer from the payment of the fee which he now pays?—If the master's assay-master is paid by Government, instead of the importer, I cannot say what rule should be passed with respect to the fee now paid by the importer.

2621. Does it enter into your arrangement to make that alteration?—I must leave that to the Committee.

2622. Mr. *Hume*.] You have stated that the reports of the rating of the pots should be given to the King's assayer, under your new plan; is not that done now?—No.

2623. Has he no knowledge of what the pots consist till he himself makes the assay?—Not any.

2624. Is it not better that the King's assayer should make his assay without any previous knowledge, than that he should have the report which you have now stated?—I have stated that it is satisfactory to him to be able to refer occasionally to the previous "potting."

2625. Why would you limit the metal to be received only from Brown & Brind; why permit imports of metal melted by them alone?—I think I have stated "or the Mint melter;" but I would confine it to those two.

2626. Have you any reasons for supposing that there are not melters out of the mint besides Brown & Brind?—I think it would be very unsafe to take ingots into the Mint, except from a well-known and tried melter.

2627. And are they the only tried melters now?—I could not state anybody else.

2628. You have never received from any other, therefore you are not able to form an opinion from experience?—I think there are instances in which they have been occasionally received, but I cannot state it positively; I only wish to continue the Mint regulation.

2629. In

2629. In considering this plan, have you ever contemplated the propriety of introducing into the Mint here the plan adopted in France, by which a contract for all the operations is made at once, instead of the several agreements which are now made, with the melter and moneyers?—No, I cannot say that I have.

2630. Mr. *Baring*.] You state that your plan would produce a saving, and that that saving would cause a loss to the melter and importer; you propose to compensate the melter; do you propose to compensate the importer, by shortening the time for coining; if not, would it not tend to make coinage more expensive to the importer, and thus to a great extent be an impediment to coinage?—I apprehend the loss to the importer by my plan would be too trifling to have such an effect; if otherwise, that objection might be removed by exonerating the importer from the fees which he now pays to the master's assayer.

2631. *Chairman*.] Does not your plan suppose some saving in point of time in the process of coinage?—As regards quickness in the scissel pots, it does.

2632. Do you think that that would be at all considerable?—The difference between the scissel pot being corrected at once, and returning to the master's assay-office for correction, would cause an increased expedition of three or four days.

195

APPENDIX.

LIST.

(A.)

No. 1.—Order in Council, Mint Indenture, and Agreements with the Moneyers and Melters p. 1
No. 2.—The Deputy Master's Report - - - - - - - - - - p. 28
No. 3.—The Comptroller's Report - - - - - - - - - - - p. 31
No. 4.—The King's Assayer's Report - - - - - - - - - - p. 40
No. 5.—Mr. Brande's Report (Superintendent of Machinery) - - - - - p. 49
No. 6.—Mr. Wyon's Report (Chief Engraver) - - - - - - - - - p. 51
No. 7.—Report of the Provost and Company of Moneyers to the Right Hon. H. Labouchere, Master and Worker of His Majesty's Mint - - - - - - - - - p. 53
No. 8.—Report rendered to the Right Hon. H. Labouchere on the state of the Melting and Refining Departments - - - - - - - - - - - - - - p. 55
No. 9.—Petition of the Clerks in the Mint - - - - - - - - - - p. 69
No. 10.—Return of Purchases of Silver since 1st January 1835, distinguishing Dollars or other Coin from Silver Bars, and stating whether such Purchases were made for Commissariat Department or for the Mint - - - - - - - - - - - p. 70
No. 11.—An Account of the Gross Charge by Indenture and Treasury Authority, for the Coinage of Gold, Silver and Copper Monies, including the Private Coinages, and the Charges for Refining and Melting Bullion into Ingots for the Assay; also of the sums paid thereout for the respective Charges of the Moneyers, and Melter, and Refiner, according to their Agreements; for the Master's Fees, as regulated by the Act, 39 Geo. 3, and showing the Surplus applied in aid of the Contingent Expenses of the Establishment, from the year 1816 to 31st March 1837, distinguishing each year - - - - - - p. 70
No. 12.—A Return of the several items of Charge and their several Amounts, forming the Sum of 14,165 *l.* 1 *s.* 9 *d.*, as allowed by the Mint Indenture for the Coinage of Gold, Silver and Copper Monies in 1835, stating the Number of Pieces of each denomination coined, the rate of Charge, and the Amount charged for each kind - - - - - p. 71
No. 13.—An Account of the application of the Sum of 14,165 *l.* 1 *s.* 9 *d.*, stating the Amount paid to each Person, for what Service paid, and under what Authority - - - - p. 71
No. 14.—An Account of the Appropriation of 401 *l.* 5 *s.* 1 *d.*, charged as Brokerage paid by the Deputy Master of the Mint, for the purchase of Bullion in 1835, distinguishing the accounts of Gold, Silver and Copper, and the Amount of each of these Metals used in Coinage for the Commissariat Service, stating the rate of the Brokerage and the Amount paid to each Broker - - - - - - - - - - - - - - p. 72
No. 15.—An Account showing the Total Sum paid for Wages to the Artificers employed in keeping the Machinery of the Mint in order in the Year 1835, distinguishing the Amount paid by Government and the Amount paid by the Moneyers; also the Allowance for Coals, Tallow, Oil, &c., for working the Machinery - - - - - - - p. 72
No. 16.—Minute of the Board, dated 19 June 1833, regulating payment of Wages - - p. 73
No. 17.—An Abstract Account of the Trials of the Pyx, showing the Date of each Coinage; the amount or value of the Coinage; and the Pieces deposited in the Pyx for Trial, from the year 1816 to the year 1837 - - - - - - - - - - - p. 74
No. 18.—Return and Explanation relating to the Coinage of the Gold Bullion imported into the Mint by Messrs. Sharp & Co. - - - - - - - - - - - p. 75
No. 19.—Letter and Account from Messrs. Sharp & Co. respecting the Loss sustained on a Quantity of Gold Bullion imported for Coinage - - - - - - - - - - p. 75
No. 20.—A Return of the Mint as to Coinage, if working for the ordinary hours - - p. 77
No. 21.—A Return of the Amount of Alloy added to the Scissel Pots of Gold and Silver, in each year since 1816, and the Value gained by the Gold and Silver by such Alloy - p. 77
No. 22.—Papers relating to the New Standard Trial Plates - - - - - - - p. 78
No. 23.—A comparative Statement of the Salaries and Allowances, Contingent Expenses, and Rates of Coinage, between the Establishments of the French and English Mints, 1836 p. 87
No 24.—Correspondence relative to the Coinage of One Million of Crown Pieces - - p. 89
No. 25.—Return to the Inquiry of the Committee, "Who pays for the Alloy supplied?" - p. 93
No. 26.—A Return of the Value of the Materials and Labour supplied to the King's Assay Master and Master's Assay Master in each of the last 15 Years, from 1821 to 1835, both included - - - - - - - - - - - - - - - - p. 93
No. 27.—Return of the Amount of Fees received for Private Coinage, and the manner in which the same was divided, and the Persons to whom paid, and how much each received in each Year, from 1816 to 31 December 1836 - - - - - - - - p. 94
No. 28.—Return of the Pieces deposited and released from the Pyx at the last Trial, and how accounted for by the Mint - - - - - - - - - - - p. 94

No. 29.—Return of the Charge of Copper Coinage per Ton, and how the charge is distributed p. 95
No. 30.—An Account of all Sweep sold, from the Melting House and Refinery, from 1828 to 1836 - - - - - - - - - - - - - - - p. 95

(B.)

PAPERS RELATING TO THE FRENCH MINT.

No. 31.—Communication from M. Thiers to Earl Granville - - - - - - p. 96

(C.)

MINT OF THE UNITED STATES.

No. 32.—Letter from R. M. Patterson, Esq. to J. Buchanan, Esq. - - - - - p. 208

(D.)

DUTCH MINT.

No. 33.—Memorandum upon the Dutch Mint, delivered to Mr. Labouchere by M. Poëlmen, Assayer, and one of the Directors of the Mint at Utrecht - - - - - - - - p. 213

(A.)—*continued.*

No. 34.—Messrs. Garbett's Report on the Mint, 1782 - - - - - - - - p. 215

No. 35.—An Account of all Gold, Silver and Copper Monies of the Realm Coined at His Majesty's Mint, from 1 January 1816 to the 31st December 1836, specifying the Weight, Number of Pieces, and Value of each denomination of Money Coined yearly, and the Total Value of the respective Coinages in each year - - - - - - - - - p. 224

No. 36.—(No. 1.) A Statement, in detail, of the Amount of 422,523 *l.* 0 *s.* 1 *d.* paid to the Company of Moneyers, from the Year 1816 to 31 March 1837, distinguishing the Amount paid for Gold, Gilver and Copper Coinages (including Private Coinages) in each year, and stating the Weight of the Monies Coined - - - - - - - - - - p. 228

(No. 2.) A Statement, in detail, of the Sum of 142,902 *l.* 11 *s.* 8 *d.* paid to the Melter, within the same period, for Gold, Silver and Copper Coinages (including Private Coinages) and other Services, in each year - - - - - - - - - - - p. 228

No. 37.—A Statement of the Manner in which the Master's Fees, received from the 10th October 1815 to the 5th April 1837, have been appropriated - - - - - - p. 231

No. 38.—A Statement, in detail, of the application of 71,704 *l.* 4 *s.* 4 *d.*, being surplus Fees arising on the several Coinages carried on at the Mint, from the Year 1816 to 31 March 1837, after paying the Charges to the Moneyers and Melter, and Fees to the Receiver p. 232

No. 39.—An Account of Receipts, Disbursements and Net Profit on Melting for Coinage, with the Amount in Weight and Value, for which the Melter has been responsible, from the Year 1828 to 1836, inclusive - - - - - - - - - - - - p. 233

No. 40.—An Account of Guineas, Half Guineas, and Seven Shilling Pieces Melted by the Bank of England since the Year 1816 - - - - - - - - - - - p. 234

No. 41.—A Return of the Number of Gold Ingots imported by the Bank of England into the Master's Assay-office, in the Royal Mint, for Coinage, from the year 1815 to the year 1835 inclusive, together with the difference of the Master's Assayer's Report, and the Importer's Assay - - - - - - - - - - - - - - - p. 234

No. 42.—Papers relating to the New Standard Trial Plates - - - - - - p. 235

No. 43.—List of Returns from the Mint Office, ordered by the Committee of the House of Commons upon the Mint Establishment - - - - - - - - - - - p. 246

APPENDIX.

—(A.)—

PAPERS RELATING TO THE ROYAL MINT.

—Appendix, No. 1.—

ORDER IN COUNCIL, MINT INDENTURE, AND AGREEMENTS WITH THE MONEYERS AND MELTERS.

AT the Court of *Carlton House*, the 17th of March 1815;

Present: His Royal Highness the Prince Regent, in Council.

Order in Council.

WHEREAS there was this day read at the Board a representation from the Right Honourable the Lords of the Committee of Privy Council appointed to take into consideration the state of the coins of this Kingdom, and the present establishment and constitution of His Majesty's Mint.

Representation of the Lords of the Committee of Council for coins read.

His Majesty having been pleased by His Order in Council of the 7th February 1798 to appoint a Committee of His Privy Council "to take into consideration the state of the Coins of this Kingdom, and the present establishment and constitution of His Majesty's Mint;"

The King's Order in Council in 1798.

The Lords of the Committee, in discharge of a part of the duty so confided to them, submitted to His Majesty the expediency of erecting a new Mint with an improved system of machinery; this desirable object having been accomplished, they proceeded in the next place to consider the establishment and constitution of His Majesty's Mint, conceiving that if it shall hereafter be found advisable to make any alteration in the coins of the realm, such alterations may be more effectually carried into execution when the establishment of the officers employed in His Majesty's Mint shall have been rendered more efficient. And the Master of His Majesty's Mint having laid before the Committee a plan for a new arrangement of the said establishment, which appears to the Committee to be well calculated to attain the object in view, the Committee humbly take leave hereunto to annex the said plan, and to submit the same as proper for Your Royal Highness's approbation, and recommend that the necessary directions may be given to the Lords Commissioners of His Majesty's Treasury for carrying the same into effect.

Expediency of erecting a new Mint with improved machinery.

To consider the establishment and constitution of the Mint.

Alteration in the Coins of the Realm to be considered.

Master of the Mint lays before the Committee plan for a new arrangement of the establishment.—Committee recommend the same.

His Royal Highness the Prince Regent having taken the said representation into consideration, was pleased, in the name and on the behalf of His Majesty, and by and with the advice of His Majesty's Privy Council, to approve thereof, and of the said plan for a new arrangement of the establishment of the officers of His Majesty's Mint (copy whereof is hereunto annexed), and the Right Honourable the Lords Commissioners of His Majesty's Treasury and the Master of His Majesty's Mint are to give the necessary directions as to them may respectively appertain for carrying the said plan into effect accordingly.

Chetwynd.

Prince Regent approves of the plan, and orders the Treasury and the Master of the Mint to give directions for carrying the same into effect.

To the Lords of the Committee of His Majesty's Most Honourable Privy Council for Coins, &c. &c.

Report of the Right Hon. W. W. Pole on the state of the Mint; submits the same to the Committee.

My Lords,

I beg leave to submit for your Lordships' consideration the result of such inquiries into the state of His Majesty's Mint as I have felt it my duty to make. I am aware that your Lordships have often considered this subject, and that you are intimately acquainted with every part of it. I know that many able reports upon the Mint are in your possession, and I should not have obtruded myself upon your notice had I not found much in the department to call for immediate revision and reform. Thus circumstanced, I trust to your Lordships' indulgence, and shall proceed without further preface to lay before you the present condition of the Royal Mint both in its cheque and operative department, and humbly to recommend such arrangements as appear to me to be necessary for its improvement.

Many Reports already made.

Necessity for revision and reform.

Arrangement necessary for the improvement both of the cheque and operative department.

Cheque Branch.

I am informed that in the Cheque Branch of His Majesty's Mint no office has been changed and no salary or emolument has been increased, but in a very few instances stated in the margin (*a*) (with the exception of the King's assayer), since the reign of Queen Anne, in the year 1702.

Salaries not raised since 1702.

The

(*a*) By King's warrant 1727, a very small augmentation to salaries of the inferior clerks, and about the year 1770 the master's assayer's salary was raised 40 *l.*

(A.)
ROYAL MINT.

Appendix, No. 1.
Order in Council; Indenture; and Agreements.

The Warden.

The first officer in this branch, the Warden, is appointed by patent during pleasure. His office is a sinecure. The first clerk and deputy (the same person) does all the duty, no part of which is of any essential service to the public, the deputy comptroller and king's clerk keeping the same cheques as the deputy warden, and the deputy master and deputy comptroller having similar keys of the strong hold, &c. The first clerk and deputy to the warden and his law clerk are appointed by the warden during his pleasure.

The office of warden's second clerk is a sinecure. The appointment is from the Crown by warrant.

The appointment of solicitor (*a*) to the Mint, now in the gift of the warden, should be in the Treasury. The solicitor should have a salary, and his charges should be regulated according to the proposal of the auditors of public accounts, long since delivered in to the Board of Treasury. The salaries of the warden and the officers under him are as per margin (*b*).

By the 14 Geo. 3, cap. 92, the wardens, master and comptroller, with the assistance of the King's assayer, are directed to make standard weights of a guinea and a shilling, and also other weights, being parts and multiples of the said guinea and shilling, &c., and the warden is one of the officers in whose custody the said weights are by the Acts directed to be kept. The warden is also to pay the salary of the stamper of money weights established by the Act, and he is one of the officers required to make the duplicate weights to be entrusted to the stamper. These appear to me to be the only duties now imposed upon the warden by Act of Parliament.

The 18 Charles 2, cap. 5, as far as regards the warden, is virtually repealed by the 27 Geo. 2, cap. 11, and 1 Geo. 3, cap. 16, made perpetual by 9 Geo. 3, cap. 25. These Acts make the Master of the Mint a public accountant for all monies issued for the service of the Mint.

I should humbly recommend that the warden's office should be relieved from all duties not imposed upon it by Act of Parliament, which would in fact leave scarcely any business to be performed by the deputy warden.

If this suggestion should be approved of by your Lordships there could be no difficulty in providing by a new Mint Indenture for the distribution of the several duties now performed by the warden's deputy, under the authority of the existing indenture.

The salaries of the warden and the officers under him need not be increased, and at the death of the present warden his Majesty's Government would have to determine whether the office may not be altogether abolished by Act of Parliament, and whether the duty of making the weights, &c. &c., as now directed by the 14th of the King, may not from thence forth be imposed upon the master comptroller and King's assayer.

The Comptroller.

The Comptroller's office seems to me to be one of great importance, and which ought to be continued under regulations. The comptroller should be the main cheque on the master in his receipts of bullion, &c., and in his accounts. At present Mr. Tekell makes the office a complete sinecure; the whole business is transacted by his clerk and deputy (the same person), who is a practising physician, and consequently cannot give his full time to his duties at the Mint; and, in truth, he is so inadequately paid that it cannot be expected he should do so. The comptroller is appointed by patent during pleasure, and has the power of nominating a deputy, to be sanctioned by the Treasury. I should propose that Mr. Tekell should be called upon to reside in the Mint, and do the duties of his office in person, that the office should be regulated, the place of deputy comptroller and clerk abolished, and the power of appointing a deputy taken from the comptroller; and that if Mr. Tekell refused to continue in his office on these terms, he should be dismissed, and a person selected with great care for the comptrollership. The salary of the comptroller must be increased; he has now a net receipt of 246 *l.* per annum. The saving to the public by abolishing the office of deputy comptroller would be as per margin (*c*).

The

(*a*) The law clerk to the warden is, in fact, the solicitor.

(*b*) See the Report of the Audit Commissioners to Treasury, dated 20th July 1813, and Lord Clancarty's Report on the same, on reference to him, September 1813.

	£.	s.	d.
The warden	434	2	–
Deputy warden	70	2	–
Warden's second clerk	92	10	–
Law clerk	60	–	–
£.	656	14	–

	£.	s.	d.
(*c*) Deputy comptroller	69	12	–
This officer is also clerk and comptroller of copper coin, which duty should be done by the comptroller. Average of 40 years on such appointment	100	–	–
£.	169	12	–

The offices of King's clerk and clerk of the papers are essential to the establishment; they are at present executed by the same person, whose income from the public is 144 *l.* 18 *s.* per annum. I see no objection to these offices being held by the same person. The salary should be increased, and he should be allowed a house and compelled to reside in the Mint. Should it be thought necessary to continue the system of having three keys to the strong-hold, &c. (which I own I think it is not) the warden's key might be transferred to the King's clerk.

The King's assayer is the most important of all the cheque officers, and although his salary was considerably increased in Lord Bathurst's mastership, yet, in my opinion, it is still very inadequate to his services. I should propose a further advance of salary to this officer, but he should be bound to instruct a probationer thoroughly in all the branches of his art. Mr. Harris, a late King's assayer, received a pension from the Treasury for a like service; but I should recommend that the King's assayer's salary should be permanently raised, and that he should be permanently obliged to instruct a person in the art of assaying, as a part of his official duty.

The clerk of the irons and superintendent of machinery should have added to his duties that of superintending the die press-room, and he should be the person to order such dies as may be wanting, and to purchase them under the direction and control of the Mint Board, by which a considerable saving will accrue to the public. The salary of this officer, when this arrangement is made, should be increased.

The Weigher and Teller.

This officer's salary should be increased, as it is not at present sufficient to pay him for his labour. The present occupier has held the office 40 years, and has a place in the Post-office, which prevents him sometimes from doing his duty at the Mint; he, however, has, I am informed, always found a substitute when he has been absent. I should propose superannuating him, and appointing a successor on a proper salary, who must not be allowed to have any other occupation.

The surveyor of meltings should have a small increase of salary.

The surveyor of money presses should also have a small increase of salary.

The stamper of money weights is appointed by warrant from the Treasury during pleasure; the office is at present a complete sinecure; the salary should be discontinued. This officer is appointed under the authority of 14 Geo. 3, c. 92; his salary, though authorized, is not fixed by the Act, and might be reduced or discontinued on the decease of the present stamper; by the 15 Geo. 3, c. 30, he has a fee of 1 *d.* upon every 12 weights stamped. If money weights are ever required to be stamped, a small fee paid by the parties possessing the weights would amply pay the officer. The saving by abolishing the salary would be as per margin (*a*).

Should the cheque branch be regulated upon the principle I have recommended, I presume the officers would cheerfully give up their whole time to their duties at the Mint, and that there would be no possibility of any office (except the warden's) being executed by deputy; that a ready and prompt obedience would be paid to such orders as they might receive from Government, and that the various important trusts imposed upon them would be diligently and faithfully executed. At present, from the defective construction of this branch, and from the utter inadequacy of the emoluments of the officers who are called upon to do its various duties, the public service is often impeded, and the checks, which it is most important should be certain and efficient, are frequently scarcely more than nominal (*b*).

In considering the amount of the salaries of the cheque officers, I am inclined to leave out of my calculation all fees received by them for private coinage sanctioned by Government (which, generally speaking, are inconsiderable); such coinage must be considered as extra duty, it being no part of their business as officers belonging to the Crown, and moreover it being certain to cease whenever the circulation of the coin of the realm shall be restored to its natural course.

The fees, however, which these officers have been accustomed to receive for extra work done for the public service, under the authority of the commissary-general and the Treasury for Ceylon, and our other colonial dependencies in the West as well as in the East Indies, an account of which for the last three years shall be exhibited in the papers hereunto annexed, must for ever cease if their salaries are paid upon the scale I recommend. This will save much time and trouble to the Commissioners of the Treasury and to your Lordships, as well as some money to the public, and it will be in many respects an important improvement to the mode of conducting business at the Mint.

The

(*a*) Stamper of money weights, 251 *l.* 5 *s.* per annum.

(*b*) I am informed that it has been a common practice for the deputy warden and deputy comptroller to leave their keys of the strong-hold, &c. with the porter, and that this servant has been left to attend at opening the strong-holds without the presence of either of the officers, whose duty it was never to have suffered the keys to be out of their possession, and to check the deputy-master in all his receipts and deliveries.

(A.)
Royal Mint.

Appendix, No. 1. Order in Council; Indenture; and Agreements.

The fees which the King's assayer receives from the Banks of England and Ireland for assaying the bullion they purchase, can only be considered as a tribute to his superior science and integrity, paid by the parties interested, it being certain that could they procure the performance of this most important service with more ability, judgment or accuracy anywhere else, they would not come to the King's assayer. It would therefore, in my opinion, be most impolitic as well as unjust to take any of his profits of this nature into account in fixing his salary as a public officer.

Operative Branch.

The principle upon which the operative branch of the Royal Mint must be regulated appears to me to be very different from that which is applicable to the cheque branch.

The deputy master, as the melter, and the company of moneyers, the principal heads of this branch, are paid chiefly by rates upon the manufacture of the coin in its various stages, and it is certain that these rates, whatever they might have been while the Mint was in the Tower, unaided by the modern improvements in mechanism, are, now that the machinery of the Mint is so perfect, by far too liberal, and that the public have a right to expect that the immense expense of erecting and fitting up the new Mint shall, at least, be gradually defrayed by a saving in the Mint expenditure, as any private manufacturer would expect that the adoption of greater facilities and improvements in his manufactory must ultimately create a saving in the expenses of his manufacture; this seems perfectly reasonable, and I should propose endeavouring to reform the operative branch of the Royal Mint upon this principle, superadding to it the fairly national object of endeavouring to improve the manufacture of the coin itself both in design and workmanship, so that we may not only have to boast of the most beautiful and correct Mint machinery in the world, but that we may stand equally unrivalled for the perfect form and exquisite taste of our several coins. Upon the best consideration I have been able to give the subject, I have formed a strong opinion that the present mode of paying the melter and moneyers by rates proportioned to the weight of bullion they manufacture, making them responsible for returning weight for weight, and letting the allowance for deficiency of weight or fineness be merged in the amount of the rates, is one by which the public and individuals are effectually secured from fraud, and which cannot be safely altered. It is, I think, conclusive on this point, that from the time of Edward 3d, tradition tells us these officers have been upon the same footing, and that there is not a single instance on record of any loss having been sustained either by the public or by individuals in the coinage of bullion at the Royal Mint. The officers have been frequently defrauded by those in their employment, but they have never claimed to be exempt from their engagements, and have always made good the losses without a murmur. This experience, to my mind, proves the merit of the system, and I would not change it. In my view then, the only mode of attaining a beneficial change for the public in this branch of the Mint, will be by either reducing the rates paid upon the coinage, or by making the officers keep their machinery and buildings in repair, and furnish such fuel and materials, &c. as may be necessary in their several departments in consideration of their not having their rates reduced, or by both reducing their rates and making them keep their machinery, furnaces, &c. in repair.

The deputy master and master's first clerk (the same person) at present holds the contract with the Lords of the Treasury as melter. Formerly the master held the contract as melter, and it formed one of the main sources of Lord Cadogan's profits in the gold coinage within the years 1773 to 1777.

The deputy master and master's first clerk being in fact the first executive officer at the Mint, and having various most important duties to perform, as your Lordships well know, should not, in my opinion, be allowed to contract for the meltings; he should be called the master's deputy, and he should have one fixed salary.

If this regulation takes place, I do not think the master and worker of the Mint should have the sole power of appointing the deputy master; the appointment should be sanctioned and approved by the Lords Commissioners of the Treasury, and the deputy master should not be removed from his office without their Lordships' concurrence expressed in writing. The deputy master and first clerk is appointed by the Treasury to receive the master's fees under the 39 Geo. 3, c. 94, at a salary of 100 *l.* a year. This should merge in his salary to be fixed, and he should continue to receive the fees and account for them to the Treasury, giving the security as formerly.

The master's second clerk is now employed by the deputy master to superintend the melting-house, and he shares the profits with the deputy master. This officer I should propose to name master's first clerk, upon a small salary, and he should be the contractor for the meltings with the Lords Commissioners of the Treasury, and his whole duty confined to the melting department; and if the allowance for melting was reduced below the present contract prices, one-third upon all denominations of coins (which I am of opinion it may very reasonably be, and still leave a remuneration amply sufficient to compensate the melter for his responsibility and labour), and if he was also bound to keep the furnaces, apparatus,

apparatus, &c. in his department in order, the saving to the public would be, at the rates stated in the margin (*a*), as follows:

	£.	s.	d.
Upon every million sterling of silver coined - - - -	2,016	–	–
And upon the full working powers of the Mint, or 4 millions in a year - - - - - - - - - -	8,064	–	–
Upon every million of gold coined - - - - - -	445	–	–
And upon the full working power in a year - - - -	1,780	–	–

The master's first clerk, in his contract as melter, should be bound to instruct the master's second clerk in the art of melting, as a probationer, who will naturally look for promotion if his conduct merits the approbation of his superiors.

In May 1813 Lord Clancarty desired an estimate of the expense of erecting a refining apparatus for gold in the Royal Mint, and also a statement of the rates at which the melter would undertake to refine gold for the public; the estimate was made, amounting (for completing the whole apparatus contiguous to the melting-house) to 278 *l.* 18 *s.*, and a proposal was made by the master's second clerk for refining gold and silver at the Royal Mint. No step, however, has been taken on the subject. The refining gold and silver at the Mint is certainly most desirable, even if there was no saving upon the process; but the proposal made to Lord Clancarty, which has been now renewed, is to refine both metals at one-sixth less than the trade price, whatever they may be, which is 16 *l.* 13 *s.* 4 *d.* per cent. saving on refining gold, and 16 *l.* 13 *s.* 4 *d.* per cent. also on refining silver (*b*).

I do not hesitate most strongly to recommend this measure; had it been adopted in Lord Cadogan's coinage, the saving would have been as per margin (*c*). The expense of the apparatus, which would answer equally well for both metals, would be saved in a very short period.

The master's third clerk should become the second clerk, and be put in point of salary upon the footing of the second clerk. The office of third clerk should be abolished. The saving to the public by the abolition of the master's third clerk would be as per margin (*c*).

The master's assay master is an important officer; his salary was raised in Lord Bathurst's mastership; but I recommend that it may be still further advanced. I am also of opinion that the fees which he receives from the importer upon the trial of ingots brought to the Mint for coinage should be continued, as by this means the interest of the individual is secured, while the King's assayer, as a cheque officer, guards that of the public.

I need not here discuss the constitution of the company of moneyers; they cannot dispute the right of the Crown to fix their rates of payment; I am rather inclined to leave them all their present rates upon the various coins, and to fix upon them while they are at work the whole expense of refining, all the machinery, annealing furnaces, &c. appertaining to their department, in repair, including the steam-engines; also the whole burthen of finding fuel as well for the steam-engines as for the various furnaces, and the expense of paying the workmen, now partly paid by the Crown (I mean those who came from Birmingham). The 100 *l.* per annum now allowed them for keeping their tools in order should also be discontinued.

This would certainly be imposing upon the moneyers a very great additional expense, and from the tenor of their reply to the proposition made by your Lordships' direction, of taking upon themselves a comparatively small part of these additional burthens (*d*) it is not likely they would receive such a proposition favourably. They have, however, after some discussion acquainted me that they are ready to agree to these terms (*e*).

I would

(*a*) Proposed reduced Rates for melting, $\frac{1}{3}$ *d.*:

Silver.		*Gold.*	
Crowns	2 $\frac{1}{3}$ *d.* per lb.	Five guineas	8 $\frac{2}{3}$ *d.* per lb.
Half-crowns	2 $\frac{1}{3}$ *d.* —	Two guineas	8 $\frac{2}{3}$ *d.* —
Shillings	3 *d.* —	Guineas	10 *d.* —
Sixpences	3 $\frac{2}{3}$ *d.* —	Half guineas	11 $\frac{1}{3}$ *d.* —
Groats	4 *d.* —	One-third guineas	1 *s.* 3 *d.* —
Threepences	4 $\frac{2}{3}$ *d.* —	One-fourth guineas	1 *s.* 5 $\frac{1}{3}$ *d.* —
Twopences	5 $\frac{1}{3}$ *d.* —		
Pence	6 $\frac{2}{3}$ *d.* —		

(*b*) It should, however, be remembered, that it can seldom or never be necessary to refine silver at His Majesty's Mint.

N.B.—The great expense in the re-coinage was in fluxing or purifying and smelting the old guineas (previously) at a refiner's out of the Mint. See hereafter the saving which would have occurred had this service been done in the Mint at the present proposed reduced rates.

(*c*) The bill for refining came to - - - - - - - - £. 2,689 15 9
The saving, therefore, would have been, at the present rate, one-sixth less, 443 5 10

(*d*) *Vide* Correspondence in April 1813. Burden to be put upon the moneyers by this arrangement in a year of full work, 1,140 *l.* 14 *s.*

(*e*) I should propose, when the Mint is not at work, the machinery, tools, furnaces, &c. should be kept up at the public expense.

(A.)
Royal Mint.

Appendix, No. 1. Order in Council; Indenture; and Agreements.

I would leave the salaries of the moneyers upon their present footing; I do not see the necessity of any increase. Whether the burthen thus fixed upon the moneyers is sufficient to induce your Lordships to advise the continuance to them of the prices fixed by the Mint indenture in 1770, is for your wisdom to determine; when, however, I consider the complicated state of the moneyers' business, the number of hands they are obliged to employ in the different stages of the coinage, the very great increase in the price of labour of every description within the last 45 years, and their serious responsibility, I am inclined to think the additional expenses I have proposed to put upon them are sufficient to justify their continuing to work at the old rates.

The engravers' department also requires regulation, both for the despatch of business and for the improvement of the design and execution of the coin of the realm. The salaries of the engravers should be materially increased, to enable the public to have the benefit of the best artists which the country can afford, and the engravers should be relieved from the duties of the modelling for the coin. The office of a modeller should be established, and I should humbly submit that he might be chosen from among the most celebrated of our Royal Academicians, and that he should be appointed during pleasure by the Treasury; he might then be removed without difficulty, if found incompetent or inattentive to his duty. His duty to be to design and model for the coin, &c., and he should be paid a fixed price for each model; he need have but a small salary.

When this duty is taken from the engravers' department, the chief engraver will not require more than one assistant. The saving by abolishing the third engraver will be as per margin (*a*). The smith assistant to the engravers and die forger (one person) is paid by a small salary and by rates on the coinage allowed under the Mint indenture; a considerable saving may be made by abolishing this office. The superintendent of machinery should procure such dies as may be wanting at the cheapest rate and of the best quality, under the direction of the board of Mint officers; which I understand will be a much more economical mode than the present. The office is now held by a very opulent tradesman, and the salary is 40 *l.* per annum.

The addition of one porter to the establishment (absolutely necessary from the nature and extent of the Mint buildings), and some small additions to the salaries of some of the menial servants, such as firemen, &c., are the only other alterations in the establishment of the Royal Mint which I have to submit to your Lordships.

That your Lordships may be aware of the full extent and nature of the savings, and of the augmentation of the salaries which I have thought it my duty to bring under your consideration, I have annexed two papers, A and B. A shows the offices proposed to be abolished at present, and discontinued at the death of the present warden, and the annual saving to accrue to the public by their suppression; it also contains a statement of the diminution of expense that will be caused by the arrangement proposed for the regulation of the moneyers, and a calculation of the reduction in favour of the public by the new contract to be entered into by the melter, and by the system to be established of refining gold and silver in the Royal Mint. It further contains an average amount of the fees for duties hitherto considered as extra, but which in fact are fees that have been paid by the public. These fees are calculated upon the receipts of the several officers in the last four years; it is proposed to abolish the fees. B shows the proposed new arrangement for the salaries of the officers of the Mint.

Your Lordships will perceive that the permanent reduction upon the salaries, &c., when the whole plan comes into operation, would be 2509 *l.* 12 *s.* 3 *d.* per annum, and that the increase proposed is 2,463 *l.* 8 *s.* per annum, making a permanent saving of 46 *l.* 4 *s.* 3 *d.* per annum.

And you will also observe that the saving calculated upon the reduced prices of the melting and refining is, per million on silver - - - - - - £. 2,016
Ditto - - - on gold - - - - - - 445

Being at the rate of a full year's work on silver - - £. 8,064
Ditto - - - - on gold - - - 1,780

And that this reduction would have made a difference on Lord Cadogan's coinage of 11,608 *l.* (*b*)

The melter should be provided with a house in the Mint, and the salary of 100 *l.* per annum, as master's first clerk, is, in my opinion, sufficient for him without any other allowance at any other time when he may not be employed in the melting. The regulation of the warden's office will, I should hope, enable Government to accommodate both the melter and the King's clerk with houses.

In proposing the various salaries for your Lordships' consideration I have endeavoured to keep them upon the lowest scale that can reasonably be considered in any degree adequate to the labour and responsibility attached to the several offices; and I have ventured to suggest the propriety of establishing in the Royal Mint the principle of gratuity for length

(*a*) The third engraver, 80 *l.* per annum.

(*b*) Exclusive of the charge of fluxing and melting the old guineas at a refiner's out of the Mint, which on the now proposed reduced price for the melting in the Mint, would have produced a saving by estimate equal to 5,000 *l.*

length of service, which has been found so very beneficial in other public offices. This principle certainly holds out the best encouragement to diligent and deserving officers; and I believe it has been found to attach such persons more to the department they may happen to belong to than any other system yet established. All the salaries I have suggested must be considered as extremely low when they are compared with the scale of other departments; the largest are the King's assayer (who will relinquish all fees from Government for extra duty), the deputy master, and the superintendent of machinery. The King's assayer is of such importance, and so much science and integrity are necessary for the satisfactory execution of his duties, that I trust your Lordships will feel that the salary of this officer should not be fixed at less than the amount I have stated.

The deputy master, by the arrangement I propose, will be unquestionably the first executive officer at the Mint; and it will in fact be his duty to watch over every branch of the department. He will be deprived of all fees and extra emoluments; and I feel confident your Lordships will not think too much has been suggested for him.

The superintendent of machinery was brought from his business at Birmingham to arrange the new machinery. The proposed augmentation to his present emolument is 134 *l.* per annum, for which additional duties will be imposed upon him highly beneficial to the public service.

The salary of the chief engraver is considerably larger than the former salary; but I am informed it is very moderate for a first-rate artist of this description, and it is much less than has on some former occasions been given by Government to encourage engravers of eminence to work in the Royal Mint (*a*). I should here observe that it will be necessary to superannuate Mr. Pingo.

The salaries of the remaining officers I have submitted upon the lowest scale I thought possible. I very much fear they are scarcely adequate to remunerate their services, and to enable them to support themselves.

If the plan which I have recommended should be approved by your Lordships it will be necessary that a new Mint Indenture should be framed. In this indenture (in addition to what has already been suggested), I should propose that an alteration should take place in the master's remedy for deficiency of weight and fineness of the coin, for the reasons given by Lord Bathurst in his paper as per margin (*b*). I agree with his Lordship that the remedy should not be reduced to the extent recommended by Mr. Garbett, but that it should be fixed at the rates approved of by Mr. Alchorne and Mr. Bingley; viz.

For gold, one-sixteenth of a carat, or 15 grains in the lb. troy for fineness, and 12 grains for weight.

For silver, two dwts. in the lb. troy for weight and fineness.

I beg to conclude this memorandum with an earnest request to your Lordships that no time may be lost in taking the state of his Majesty's Mint into your most serious consideration, in order that such arrangements may be carried into effect as you may deem advisable, for under the present system justice can neither be done to the public nor to the individuals charged with the various duties of the coinage; and it is only by a complete revision of every part of the establishment that any hope can be entertained, on the one hand, of adequately rewarding the labours of meritorious and responsible public servants, or, on the other, of abolishing useless officers, and laying the foundation for a permanent and considerable saving in a very important national establishment.

I have, &c.

(signed) *W. W. Pole,*
Master and Worker of H. M. Mint.

Mint Office, 1 Feb. 1815.

(*a*) Roettier, a native of Antwerp, was appointed by Charles 2, as one of the engravers, with a salary of 700 *l.* per annum.

(*b*) "It is impossible to confine the standard of monies to one precise point, though it may be restrained within very small limits; some stated latitude by law is therefore necessary. The art of assaying is a nice chemical experiment, which does not admit of mathematical precision. Yet from the lights of modern chemistry, which have produced such an intimate knowledge of the action of natural bodies on each other, this operation may be considered at present as more intimately known and accurately practised in His Majesty's Mint than at former periods. Some reduction, therefore, may with safety be made in the remedy of 40 grains now allowed; but from the best information I have been able to collect, it cannot be reduced lower than one-sixteenth of a carat, for fineness equal to 15 troy grains (being the lowest denomination among English assayers,) and 12 grains for weight; and the officers of the Mint are of opinion that under less allowance than this, it would be hardly safe for the master to work, for though in general and public trials upon great masses of our coins, they usually turn out very correct, and therefore the remedies may seem unnecessary, yet it must be remembered that these remedies are applicable to every single pound; and in the operation of the Mint, where small parcels are examined separately, it is confessed that these, taken singly, are by no means so exact as when tried in the mass, where the imperfections on opposite sides serve to balance each other, which is all that is intended by our instructions for coinage, and all indeed that can be useful and reasonably required; and it may be further remarked, that the limitation of three grains, suggetted by Mr. Garbett, would embarrass the operation, and prevent that despatch which is so desirable in this public service."

(A.) No. 1.—Officers in His Majesty's Mint proposed to be Abolished.

The Officer.	By whom appointed.	How appointed.	Duration of Interest.	Full Salary and Emoluments.	1s. 6d. Tax charged on the Salary.	Clear Salary.	
				£. s. d.	£. s. d.	£. s. d.	
The Warden - -	King -	patent -	pleasure -	464 2 –	30 – –	434 2 –	
Deputy Warden -	The Warden	minute -	ditto -	70 2 –	- -	70 2 –	
Warden's 2d Clerk -	King -	warrant -	ditto -	100 – –	7 10 –	92 10 –	
Warden's Law Clerk -	The Warden	minute -	ditto -	60 – –	- -	60 – –	
Deputy Comptroller -	Comptroller	ditto -	ditto -	69 12 –	- -	69 12 –	
Stamper of Money Weights.	Treasury -	warrant -	ditto -	270 – –	18 – –	251 5 –	
The 3d Engraver -	King -	ditto -	ditto -	80 – –	- -	80 – –	
Smith, assistant to Engraver.	Master -	minute -	ditto -	40 – –	- -	40 – –	
The Master's 3d clerk merges in the 2d.							
Saving to the Public by abolishing the above offices - - -							1,097 11

No. 2.—Allowances to be discontinued in consequence of new Arrangements with the Melter and Moneyers, viz.

	£. s. d.		
The allowance to the provost of moneyers for keeping the tools, &c. in order - - - - - - - - - - - -	100 – –		
The allowance for the artificers employed for the new machinery to be now paid by the moneyers - - - - - - - -	440 14 –		
The expense of repairing machinery, furnaces, tools, &c. to be now paid by the moneyers - - - - - - - - - -	600 – –		
		1,140 14 –	
Average in two years:			
The expense of repairing furnaces, implements, &c. to be now paid by the melter, average - - - - - - - - - - - - -		100 – –	
Saving by discontinuing the above Allowances - - - £.			1,240 14 –

No. 3.—Other Office Allowances to be discontinued, viz.

	£. s. d.		
The allowance to the clerk and comptroller of copper coin, at 20 s. per ton, averaged on 40 years - - - - - - - -	100 – –		
The diet allowed to the officers under the indenture - - -	52 – –		
The allowance for coats, caps and badges, paid yearly to watermen by the warden, as per account 1812 - - - - - - -	19 7 3		
		171 7 3	
Total saving to the Public by abolishing Offices and Allowances - - -			2,509 12 3

No. 4.—Saving by the Reduction in the rate of Melting Gold and Silver.

Silver.—1 million sterling of silver is equal to 322,580 lbs. weight.

322,580 lbs. at 4 ½ per lb., the price paid for shillings, is - - -	6,048 16 –
Ditto at the proposed reduced rates, ⅓ - - - - - - -	4,032 16 –
Saving upon a million coined - - - £.	2,016 – –

And if the Mint was at its full working power, namely, four millions in a year,
The saving in a year on Silver would be - - - £. 8,064 – –

Gold.—1 million sterling of gold is equal to 21,401 lbs. weight.

21,401 lbs. at 1 s. 3 d. per pound, the price paid for guineas, is - -	1,337 – –
Ditto at the proposed reduced rate, ⅓ - - - - - - -	892 – –
Saving upon a million coined - - - £.	445 – –

And taking the full power in a year at four millions,
The saving on Gold in a year would be - - - £. 1,780 –

No. 5.—Saving by Reduction in the Price of Refining.

	£.	s.	d.	£.	s.	d.
The price paid for gold refined in the last four years, at 1 *s.* per oz. - - -	2,098	13	11			
The price proposed is 1 *s.* 6 *d.* less, or 10 *d.* per oz. - - - - -	1,648	15	11			
Saving in Four years - - - £.	449	15	11			
Making the annual saving on refining (average) - - - £.				112	8	11

Had the above regulations been made in Lord Cadogan's mastership,

	£.	s.	d.			
The saving on 34,285 *l.*, the amount paid for the meltings, would have been at ⅓ reduced - - - - - - - - - - - - - - - -	11,608	–	–			
And if the system which has lately been introduced with the Treasury and commissary, of fluxing and melting down foreign coins from South America, &c. sent by them to the Mint (instead of to a refiner out of the Mint) had prevailed when the light guineas were called in for the re-coinage, the saving at the new rate now proposed would have been on 15,000 *l.* and upwards so paid, ⅓ - - -	5,000	–	–			
And further, if the refining in Lord Cadogan's time had been carried on at the Mint, as it is now proposed, at ⅛ below the trade price,						
The saving on 2,689 *l.* 15 *s.* 9 *d.* so paid would have been - - - - -	448	–	–			
Total that might have been saved in Lord Cadogan's Mastership if the Mint had been upon the footing which is now proposed - - - - - £.				17,056	–	–

No. 6.—Saving by abolishing the Fees now paid to Officers on account of Treasury, Commissary or other Government Work, not connected with Coinage, and therefore considered Extra, averaged on the Four last Years.

	£.	s.	d.	£.	s.	d.
To 14th August:						
Melting in the four years, 652 *l.* 1 *s.* 4 *d.*, reduced ⅓ - - - - -	217	7	1			
King's assayer's fees - - - - - - - - - - - -	273	7	–			
Master's assayer's fees - - - - - - - - - - - -	229	7	–			
To December:						
Certain cheque officers, as proposed - - - - - - - - - -	187	16	–			
£.	907	17	1			
And from work now in hand, but of which the accounts are not yet made up (estimated) - - - - - - - - - - - - -	162	14	–			
Saving in Four years - - - £.	1,070	11	1			
Average on One year - - - £.				267	12	9

No. 7.—Saving by the Abolition of Fees to the Cheque Officers formerly paid on Copper Coinages.

These fees have not been paid since the copper coinages have been undertaken by Mr. Boulton, but the officers consider they have a claim to them on all copper coinages at the Mint, unless they should be abolished.

A saving will also then arise by the Mint price for coining copper being under Mr. Boulton's.

(B.)—Proposed new Arrangement for the Appointment and Salaries of the Officers of His Majesty's Mint.

Present Denomination of Officers.	By whom appointed.	How appointed.	Duration of Interest.	Present Salary.	New Denomination.	Increase of Salary.	New Salary.	—
				£.		£. s. d.	£.	
Deputy Master and Worker.	Master -	minute -	pleasure	—				
First Clerk and Purveyor.	ditto -	ditto -	ditto -					
Receiver -	Treasury	warrant -	ditto -	194	Deputy Master	606 – –	800	- - to relinquish the undertakings of the meltings.
Melter - -	ditto -	agreement	ditto -					
Second Clerk -	Master -	minute -	ditto -	65	First Clerk -	35 – –	100	- - to undertake and superintend the meltings at ⅓ reduced rate, and the refining ⅛ less than the trade, bearing all expenses of repairs, &c.

(*continued*)

Present Denomination of Officers.	By whom appointed.	How appointed.	Duration of Interest.	Present Salary.	New Denomination.	Increase of Salary.	New Salary.	—
				£. s.		£. s. d.	£.	
Third Clerk - Abolished, merging in the Second.	Master -	minute -	pleasure	50 –	Second Clerk	30 – –	80	- - and to be bred up under the first clerk as probationer in the meltings.
King's Assayer	King -	patent -	ditto -	656 –	- - -	244 – –	900	- - he has a profit on water silver of about 25*l.* p' annum which should be continued. It is the silver bullion recovered from the acid in which it has been used for assaying gold.
Master's Assayer	Master -	minute -	ditto -	250 –	- - -	150 – –	400	—
Probationer Assayer.	King's Ass.	ditto -	ditto -	200 –	- - -	- - -	200	—
Fireman to King's Assayer.	ditto -	- -	- -	78 –	- - -	10 – –	88	—
Ditto to Master Assayer.	Master Ass.	ditto -	- -	52 –	- - -	10 – –	62	—
					A Modeller -	100 – –	100	- - the model to be paid for.
Chief Engraver	King -	warrant -	ditto -	200 –	- - -	300 – –	500	—
Second Engraver	ditto -	ditto -	ditto -	80 –	- - -	120 – –	200	—
United. Clerk of the Iron.	Treasury	ditto -	ditto -	66 –	Superintendent of Machinery & the Die Departm^{t}.	134 – –	700	- - to procure the dies to be forged at the cheapest rate.
United. Superintendant of Machinery.	ditto -	ditto -	ditto -	500 –				
Two workmen under, paid by Government.								
The Company of Moneyers.	Master -	indenture	ditto -	40 –	each member conditionally -	- -	-	- - to take the coinage at the old rates and pay the wages of the Government artificers employed bearing all expenses &c.
The Comptroller	King -	patent -	ditto -	312 –	- - -	288 – –	600	—
The King's Clerk and Clerk of the Papers.	ditto -	ditto -	ditto -	144 18	- - -	255 2 –	400	—
The Weigher & Teller.	Treasury	warrant -	ditto -	151 6	- - -	48 14 –	200	—
Surveyor of Meltings.	ditto -	ditto -	ditto -	66 –	- - -	34 – –	100	—
Surveyor of Money Presses.	ditto -	ditto -	ditto -	60 –	- - -	40 – –	100	—
The Mint Porter	ditto -	ditto -	ditto -	63 8	- - -	6 12 –	70	—
					Master's Porter	52 – –	52	—
The Office Keeper	Master -	- -	- -	25 –	—			
The Office Sweeper.	ditto -	- -	- -	10 –	—			
Surveyor -	- -	minute -	- -	21 –	Architect.	—		
Clerk of the Works, paid up to July 1813.	- -	ditto -	- -	120 –	- - -	- - -	-	- - the salary has been ordered by the Treasury to be reduced.
A Jobman about the premises.	- -	- -	- -	at 3/6 p' day.	—			
The Gate Porters	- -	- -	- -	ditto -	—			
The Waterman	- -	- -	- -	ditto -	—			
For sweeping the premises.	- -	- -	- -	30 –	—			
Minister of the Tower.	- -	- -	- -	4 –	—			
The Sexton -	- -	- -	- -	1 –	—			
					Total proposed increase of Salaries - - - £.		2,463 8 –	

It is proposed that the establishment of the Royal Mint should be allowed gratuities for length of service, upon the same principle that gratuities are granted in the Ordnance department; the first class to include all persons having salaries of 400*l.* a year and upwards: the second class, all persons whose salaries do not amount to 400*l.* a year.

The Master of the Mint to certify the good conduct of each person in the first class to the Treasury, to entitle him to his gratuity. The board of Mint officers to certify to the Lords Commissioners of the Treasury for each person in the second class, for the same purpose.

If the Master of the Mint or the board officers refu se to certify for any person demanding a certificate, the reasons for such refusal to be reported to the Lords Commissioners of the Treasury, that their Lordships may decide upon their validity.

Gratuity to the first class, 20*l.* for the first ten years, to be continued annually, and an additional annual gratuity of 15*l.* for every three years after that period.

Gratuity to the second class, of 15*l.* for the first ten years, to be continued annually, and an additional annual gratuity of 10*l.* for every three years after that period.

The service to be considered as commencing from the day of the person claiming first entered upon the establishment, and the gratuities to be continued so long as he remains in the department, without limitation in their amount, or reference to the salary attached to the situation he may at any time hold in his class.

(C.)—Melter's Prices by Agreement with the Lords of the Treasury, 1803, per lb. coined.

	Five Guineas.	Two Guineas.	Guineas.	Half Guineas.	One-third Guineas.	One-fourth Guineas.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
Old rates to Mr. Morrison.	1 1	1 1	1 3	1 5	1 10 ½	2 2
Deduct ⅓ proposed by Mr. Pole.	– 4 ⅓	– 4 ⅓	– 5	– 5 ⅔	– 7 ⅓	– 8 ⅔
Reduced rates to Mr. Mushet	– 8 ⅔	– 8 ⅔	– 10	– 11 ⅓	1 3	1 5 ⅓

	Crowns.	Half Crowns.	Shillings.	Sixpences.	Groats.	Three-pences.	Twopences.	Pence.
	d.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*
Old rates to Mr. Morrison.	3 ½	3 ½	4 ½	5 ½	6	7	8	10
Deduct ⅓ proposed	1 ⅙	1 ⅙	1 ⅓	1 ⅚	2	2 ⅓	2 ⅔	3 ⅓
Reduced rates to Mr. Mushet	2 ⅓	2 ⅓	3	3 ⅔	4	4 ⅔	5	6 ⅔

MINT INDENTURE.

This Indenture, made the 6th day of February, in the 57th year of the reign of our Sovereign Lord, George the Third, by the grace of God of the United Kingdom of Great Britain and Ireland King, Defender of the Faith, and in the year of our Lord 1817, between our said Sovereign Lord the King's Most Excellent Majesty, of the one part, and the Right Honourable William Wellesley Pole, of the other part, witnesseth, That whereas our said Sovereign Lord the King, by his letters patent under the Great Seal of the United Kingdom of Great Britain and Ireland, bearing date at Westminster the 30th day of September, in the 54th year of his reign, for the considerations therein mentioned, did give and grant unto the said William Wellesley Pole the office of Master and Worker of all his Majesty's Monies, both gold and silver, within his Majesty's Mint in the Tower of London and elsewhere within that part of his Majesty's United Kingdom of Great Britain and Ireland called England, together with the net yearly salary or sum of 3,000*l.*, to be paid half-yearly to him as therein is mentioned; To have and to hold the said office of Master and Worker unto the said William Wellesley Pole, to be executed by himself or his sufficient deputy or deputies for whom he would be answerable, and also the said yearly salary of 3,000*l.*, for and during his Majesty's pleasure: And whereas it is provided by the said letters patent that the said William Wellesley Pole, after he should be in the possession of the said office, should make and execute on his part such and the like indenture and agree-

(A.)
ROYAL MINT.

Appendix, No. 1.
Order in Council; Indenture; and Agreements.

ment for and concerning the making several sorts of monies of gold and silver, and for payment of the several officers of the Mint and other matters and things relating thereto, and to the execution of the said office, as were formerly made, with such alterations and additions as shall be thought fit, and directed by his Majesty, for the better management and carrying on of that service: And whereas by an order of his Royal Highness the Prince Regent in council, made on the 17th day of March 1815, his Royal Highness was graciously pleased, in the name and on the behalf of his Majesty, by and with the advice of his Majesty's Privy Council, to approve of a new arrangement of the establishment of the officers of his Majesty's Mint; Now this Indenture witnesseth, That for and in consideration of the covenants and agreements hereinafter contained, on the part of the said William Wellesley Pole and our said Sovereign Lord the King, of his especial grace, certain knowledge and mere motion, hath given, granted, ratified and confirmed, and doth by these presents give, grant, ratify and confirm unto the said William Wellesley Pole the said office of Master and Worker of all his Majesty's Monies, both of gold and silver, within his Majesty's Mint within his Tower of London, and elsewhere within that part of his Majesty's United Kingdom of Great Britain and Ireland called England, together with the aforesaid salary of 3,000*l.* sterling, to be paid by half-yearly payments; that is to say, at and upon the 5th day of April and the 10th day of October yearly, during his continuance in the said office, by even and equal portions, out of the monies and in the manner directed in and by an Act of Parliament made in the 39th year of the reign of his said Majesty, intituled, "An Act to ascertain the Salary of the Master and Worker of His Majesty's Mint." And our said Sovereign Lord the King, for the considerations aforesaid, hath also given, granted and confirmed, and by these presents doth give, grant and confirm unto the said William Wellesley Pole all edifices, buildings, gardens and other profits, privileges, franchises and immunities belonging to the aforesaid office, to have, hold and enjoy the said office of Master and Worker unto the said William Wellesley Pole, and to exercise the same by himself or his sufficient deputy, to be approved in writing by the Commissioners of his Majesty's Treasury for the time being, and for whom the said Master and Worker shall be answerable; and also to hold and enjoy the said salary of 3,000*l.* sterling, together with the said edifices, buildings, gardens, profits, advantages, privileges, franchises, liberties and immunities, for and during his said Majesty's pleasure, in as full and ample manner, to all intents and purposes, as Richard Earl of Clancarty or any other person or persons did or at any time heretofore might or ought to hold and enjoy the same; provided nevertheless, that all such profits and advantages shall be received, applied and accounted for in the manner directed by the said Act of Parliament; and his said Majesty doth grant and confirm by this indenture, to all officers and ministers of the Mint, the charters and franchises to them before this time granted, after the effect and purport of the said charters: And whereas by an Act of Parliament made in the first year of his present Majesty's reign, intituled, "An Act to continue the Duties for the encouragement of the Coinage Money," which Act is made perpetual by an Act made in the 9th year of his present Majesty's reign, it is amongst other things enacted, that certain duties on the importation of certain articles in the said Act of the first year specified shall be paid and payable to his Majesty, his heirs and successors, and that it shall and may be lawful for the High Treasurer, or any three or more of the Commissioners of the Treasury for the time being, and he or they are thereby empowered and directed, out of the monies arising by the same Act, or out of any other public supplies granted or to be granted by Parliament, to cause so much money to be applied as shall be necessary for defraying the expenses of the Mints of England and Scotland respectively by way of imprest and upon account for that service, so as the same, together with the coinage duties arising by that Act, do not exceed in any one year the sum of 15,000*l.*, and so as the said monies be issued out of the Exchequer of Great Britain to the Master of the Mint in England and to the Master of the Mint in Scotland respectively, for the said purposes: And whereas by an Act made in the 46th year of his present Majesty's reign, intituled, "An Act to provide for a new Silver Coinage, and to regulate the currency of the Gold and Silver Coin of this Realm," after reciting that it was expedient that provision should be made for the loss arising from the deficiency and re-coinage of the silver coin of the realm, it is enacted, amongst other things, that it shall and may be lawful for the Lord High Treasurer, or the Commissioners of his Majesty's Treasury for the time being, or any three or more of them, and he or they is and are thereby authorized and required to issue and apply, or cause to be issued and applied, from time to time as they shall see occasion, such sum and sums of money, not exceeding the sum of 500,000*l.*, out of any of the aids or supplies granted for the year 1816 as shall appear to be the amount of any such deficiency or deficiencies, according to such accounts, to be from time to time delivered to the said Lord High Treasurer or Commissioners of the Treasury by the Master and Worker of his Majesty's Mint, as the said Lord High Treasurer or Commissioners of the Treasury shall for that purpose direct and require; and likewise any such sum and sums of money as shall appear to them to be requisite to defray all charges and expenses in melting down such deficient money, and casting the same into ingots and assaying the same; and also to advance such sum and sums of money as they shall see occasion from time to time to the Master and Worker of his Majesty's Mint, for and towards the several expenses to be incurred in and about the coinage of the silver coin under the said Act now in recital: And whereas it is by the said last-mentioned Act further enacted, that from and after such day as shall be named and appointed in and by any proclamation which shall be made and issued for that purpose by or on behalf of his Majesty, by and with the advice of his Majesty's Privy Council, it shall and may be lawful for any person or persons, native or foreign, to bring any

(A.)
Royal Mint.

Appendix, No. 1.
Order in Council; Indenture; and Agreements.

any foreign coin, or any other coin or reputed coin, plate or bullion of silver, in mass, molten or alloyed, or any sort of manufacture of silver, and to deliver the same at his Majesty's Mint in London, to be there melted down and coined into current silver coins of this kingdom; and such silver coin, plate, bullion or manufacture so brought or delivered, shall be assayed at the said Mint and melted down and coined with all convenient speed into silver coins, of a standard in fineness of eleven ounces two pennyweights of fine silver and eighteen pennyweights of alloy in the pound troy, and in weight after the rate of sixty-six shillings to every pound troy, whether the same be coined in crowns, half-crowns, shillings or sixpences, or pieces of a lower denomination; and that as soon as conveniently may be after any such silver coin, plate, bullion or manufacture respectively so brought to the Mint, shall be melted and assayed, there shall be delivered to the person bringing in and delivering the same a sum in silver coins of crowns, half-crowns, shillings or sixpences, after the rate of sixty-two shillings of the standard fineness and weight hereinbefore mentioned for every pound troy of standard silver of the fineness aforesaid, by such reason brought and delivered into the Mint, and so proportionably for a greater or lesser weight; and that for the defalcation or diminution, and for the charge for the assaying, coinage and waste in coinage of all such silver so to be brought to the Mint as aforesaid, there shall and may be retained at the said Mint the sum of four shillings of the standard and weight aforesaid for every pound troy of such standard silver so brought in and delivered, and so proportionably for any greater or lesser weight, making in the whole after the rate of sixty-six shillings for every pound troy of such standard silver; and it is by the same Act further enacted, that an account shall be kept at the Mint of the amount of all sums of money arising from the allowance of four shillings for every pound troy of silver to be retained at the said Mint in manner aforesaid, and that all such sums so retained shall in the first place be applied in or towards the payment of the expenses of coining of such silver, and the surplus thereof, if any, after the payment of such expenses, shall be carried to and made part of the Consolidated Fund: Therefore our said Sovereign Lord the King doth by these presents ordain and appoint, that the said Master and Worker shall receive out of his Majesty's Exchequer from time to time, and retain all such monies as are by the said Act of Parliament appointed to be paid unto him or retained by him, to be applied and accounted for in the manner therein directed. And the said William Wellesley Pole by these presents doth covenant, undertake and agree to and with our said Sovereign Lord the King, to make his Majesty's monies in manner and form following; that is to say, to make four sorts of money of crown gold; one piece which shall be called the half-sovereign or ten-shilling piece, running for ten shillings sterling, of which there shall be eighteen hundred and sixty-nine contained in twenty pounds weight troy, and so in the like proportion in one pound weight troy; one other piece which shall be called the sovereign or twenty-shilling piece running for twenty shillings or one pound sterling, of which there shall be nine hundred and thirty-four and one ten-shilling piece contained in twenty pounds weight troy, and so in the like proportion in one pound weight troy; one other piece which shall be called the double-sovereign or forty shilling piece, running for forty shillings sterling, of which there shall be four hundred and sixty-seven and the weight of half a ten-shilling piece contained in twenty pounds weight troy, and so in the like proportion in one pound weight troy; one other piece which shall be called the gold five pounds, or one hundred shillings piece, running for one hundred shillings or five pounds sterling, of which there shall be one hundred and eighty-six and nine ten-shilling pieces contained in twenty pounds weight troy, and so in like proportion in one pound weight troy; and that every pound weight troy of all the monies of gold aforesaid shall be in value forty-six pounds, fourteen shillings and sixpence, and shall be in fineness at the trial of the same twenty-two carats of fine gold and two carats of alloy in the pound weight troy, which standard aforesaid of twenty-two carats of fine gold and two carats of alloy in every pound weight troy our Sovereign Lord the King doth will and ordain and establish by these presents to be the right standard of crown gold; and the gold to be brought into his Majesty's Mint to be coined shall be coined into such pieces as his Majesty by his royal sign manual shall direct, in case he shall be pleased to give directions touching the same. And the said William Wellesley Pole doth hereby further covenant, undertake and agree to and with our said Sovereign Lord the King, to make eight manner of monies of silver; that is to say, one piece which shall be called the crown, running for five shillings sterling, of which there shall be thirteen and one shilling piece in the pound weight troy; one other piece which shall be called the half-crown, running for two shillings and sixpence sterling, of which there shall be twenty-six and one shilling piece in the pound weight troy; one other piece which shall be called the shilling, running for twelve-pence sterling, of which there shall be sixty-six in the pound weight troy; one other piece which shall be called the half-shilling, running for sixpence sterling, of which there shall be one hundred and thirty-two in the pound weight troy; one other pieee which shall be called the groat, running for fourpence sterling, of which there shall be one hundred and ninety-eight in the pound weight troy; one other piece which shall be called the half sixpence, running for threepence sterling, of which there shall be two hundred and sixty-four in the pound weight troy; one other piece which shall be called the half groat, running for twopence sterling, of which there shall be three hundred and ninety-six in the pound weight troy; and one other piece which shall be called the penny, running for one penny sterling, of which there shall be seven hundred and ninety-two in the pound weight troy; and every pound weight of the silver monies aforesaid shall be and held in number as aforesaid and be in value three pounds six shillings sterling, and shall be in fineness at the trial of the same, eleven ounces and two pennyweights of fine silver and eighteen pennyweights of alloy, which eleven ounces

(A.)
ROYAL MINT.

Appendix, No. 1.
Order in Council; Indenture; and Agreements.

and two pennyweights of fine silver and eighteen pennyweights of alloy in the pound weight troy as aforesaid, is the old standard of fineness of the monies of silver of England. And our said Sovereign Lord the King doth hereby grant that there should be allowed and paid for the coinage of every pound weight troy of gold and silver monies the prices set down in the Schedule to these presents annexed, such prices to be received by such persons as the Commissioners of his Majesty's Treasury for the time being, or any three or more of them, shall have appointed or shall appoint in that behalf, under the provisions of the said Act of the 39th year aforesaid, and to be applied in paying, bearing and sustaining all manner of wastes, provisions, necessaries and charges coming, arising and growing in and about the coinage of his Majesty's said gold and silver monies. And our said Lord the King doth hereby declare that it shall be lawful for the said Master and Worker, out of the said prices to be allowed and received as aforesaid for every pound weight troy of the monies of gold and silver, from time to time to cause to be paid unto the moneyers, for their labour, wastes and charges, in the coining of every pound weight troy of the said gold and silver monies, such prices as shall be agreed from time to time between the said Master and Worker and the said moneyers, and approved by the Commissioners of the Treasury for the time being, not exceeding the prices set down in the Schedule to these presents annexed; and that it shall also be lawful for the said Master and Worker, out of the said prices to be allowed and received as aforesaid for every pound weight of the monies of gold and silver, from time to time to cause to be paid unto the melter, for his labour and charges, such prices as shall be agreed upon from time to time between the said Master and Worker and the said melter, and approved by the Commissioners of the Treasury for the time being, not exceeding the prices set down in the Schedule to these presents annexed. And our said Sovereign Lord the King doth hereby direct that the said Master and Worker shall be bound to make all the monies of crown gold aforesaid agreeable in fineness to the respective indented trial pieces made by the direction of the late King James the Second, in the fourth year of his reign, and all the monies of standard silver aforesaid agreeable in fineness to the respective indented trial pieces made by the direction of his late Majesty King George the Second, in the first year of his reign, or agreeable in fineness to such indented trial pieces as shall hereafter be made by the direction of his present Majesty, which said indented trial pieces do now remain and shall be and remain in the several places hereinafter mentioned; that is to say, one indented piece of crown gold and one indented piece of standard silver in his Majesty's Treasury in England, to try the monies of gold and silver from time to time coined by the said Master and Worker for the time being in fineness thereby; the like with the King's Assayer for the time being, to try the monies of gold and silver from time to time coined by the said Master and Worker for the time being in fineness thereby, and also to try the gold and silver bullion brought thither, if any difference shall happen to arise between the said Master and Worker and the bringers in of the same; the like with the same Master and Worker to make the said monies in fineness thereby; the like with the wardens and company of goldsmiths within the city of London, in Goldsmiths' hall, for the trial of their plate and other works as well of gold as of silver in fineness thereby. And our Sovereign Lord the King doth will that all the gold and silver that the said Master and Worker shall deliver to the moneyers to be coined, shall be in clean bars, and delivered by weight; and the said moneyers having the said gold and silver delivered unto them in clean bars fit to be wrought, shall make and deliver seven twelfth parts of the same into money, so that there be but five parts in twelve scissel; and the said moneyers shall make and coin the same into monies, and then deliver the same again to the said Master and Worker in clean pieces proportionably by the same weight; and if anything lack of the same weight at any time of deliverance, then they shall content and pay unto the said Master and Worker for the same at any deliverance the balance; and this done, the said Master and Worker shall cause the wages that belong to them to be paid; but because the said monies may not continually be made in all things according to the right standard, but peradventure, in default of the said Master and Worker, it shall be found sometimes too strong or too feeble by too much or too little in weight, in fineness, or in both, our Sovereign Lord the King doth will and command that when the said monies of gold shall be found at the assay before the deliverance too strong or too feeble, all only in fineness the sixteenth part of a carat, or all only in weight twelve grains in the pound weight of gold and no more, the which sixteenth part of a carat in fineness and the twelve grains in weight shall be called remedy for the Master, then that money shall be delivered for good; but if default be found in the same money in weight or in fineness, or in both, over the remedy aforesaid, then the deliverance shall cease, and that money shall be challenged and adjudged less than good, and be new melted and recoined at the expense of the said Master and Worker till it be put to point as money deliverable, so always that such respective defaults happen by casualty, otherwise not. And our Sovereign Lord the King doth further will, that when the said monies of silver upon the assay before the delivery be found too strong or too feeble all only in weight by one pennyweight, or all only in fineness by one pennyweight in the pound weight troy, after the old computation of twenty pennyweights in the ounce and no more, the which one pennyweight in fineness or one pennyweight in weight shall be called remedy for the Master, then such monies be delivered for good, so always the same default do happen by casualty, or otherwise not; but if default be found in the same monies in weight or in fineness, or in both, over the remedy aforesaid, then the deliverance of the money shall cease, and the same shall be challenged and adjudged less than good, and at the cost of the said Master and Worker be new melted and recoined till it be put to point as money deliverable as aforesaid. And our said Sovereign Lord the King doth by these presents give full power and authority

authority unto the said Master and Worker from time to time to put some privy mark or marks upon the edges or flat sides of the gold and silver monies so to be coined as aforesaid, as he the said Master and Worker shall adjudge most safe and convenient for the same monies, and from time to time to alter and change such privy mark or marks according as he shall judge the same most convenient and necessary, so that the said Master and Worker may from time to time know and discover which of gold and silver amongst other be made by him and which not. And our said Sovereign Lord the King doth further will that the said Master and Worker be bound and holden to receive all manner of gold and silver brought to the Mint after the very value; that is to say, every parcel in its degree, one to the more, the other to the less, after the quantity it shall appear by the assay to be better or worse than the standard; and if the said Master and Worker and the merchant which bringeth in the said gold and silver may not accord between them of the true value, or if the bullion be not malleable, or cannot be worked until purified, or be not sufficiently nigh to the standard according to the custom and regulations of the Mint in that behalf, then the King's Assayer, in the presence of the said Master and Worker and the Comptroller, ought and shall try the truth in that part, and the said Master and Worker shall thereupon receive the same and stand thereafter charged in manner as it becometh; and the said Master and Worker shall be holden and bound to bring or cause to be brought all the gold and silver that he shall receive by colour of his office to the Mint to be molten and made into monies for help and increase of the monies for his Majesty's profit, and ease of his people, without sale, aliening or putting it to any other use, excepting all such seals and medals of gold and silver as shall be made for his Majesty's use or by his Majesty's command; and the said Master and Worker doth covenant, promise and grant to and with his said Majesty from time to time to bring into the said Mint convenient and sufficient supplies of gold and silver, and make good full payments and deliverances of all manner of monies with all convenient speed, according to the Acts of Parliament in that behalf, for the profit of his Majesty, his heirs and successors, and the ease of the people; and if any person or persons happen to bring into the said Mint any manner of gold and silver nigh to the standard aforesaid, agreeable to the custom and regulations of the Mint in that behalf, then the said Master and Worker shall receive it for the value accordingly, so as the charge to make it agreeable in fineness to the several standards aforesaid be borne and sustained out of the sums to be issued out of the Exchequer as aforesaid, and according to the rates which shall be agreed on between the said Master and Worker and the melter for refining from time to time, which shall in all cases be at the least one-sixth part below the then trade price charged by refiners; and our said Sovereign Lord the King willeth, agreeth and granteth by this indenture to and with the said Master and Worker, that the said Master and Worker for the time being do and shall receive as well his Majesty's own bullion of gold and silver as the bullion of any other person or persons whatsoever repairing to the Mint with any bullion of gold and silver aforesaid, to be coined into the monies before mentioned by the weight, delivering to the parties bringing in the same bullion, bills testifying the weight, fineness and value thereof, together with the day and order of its delivery into the said Mint, and within as convenient a time as may be deliver the same again to our Sovereign Lord the King for his bullion, and to the other parties, or to their attornies delivering the Mint bills as aforesaid their bullion, according to the value of the same, at such time and in such manner and form, and with such deduction as in this present indenture is so limited and appointed; and our Sovereign Lord the King doth will and command by this indenture, that the said Master and Worker and the said Comptroller, as also his Majesty's Chief Clerk and the Clerk of the Papers for the time being, shall enter and record in their ledger-books all such bullion of gold and silver as shall from time to time be brought into the said Mint, which entry shall comprehend the weight as declared by the weigher and teller, the fineness as reported by the Master's assayer, and the value of the said bullion, the parties' names that brought it, and what day; and after the said bullion of gold and silver shall be received, and the assays and weight thereof made, reported and entered in the said ledger-books, the said bullion shall be forthwith put into a chest or room, and the chest or room shall be locked with three keys, whereof one key shall remain with the said Master and Worker, and one other key with the said Comptroller, and the other key with the said Chief Clerk of his Majesty for the time being, and there shall continue until such time as the same shall be delivered to the surveyor of the meltings and the melter for melting into bars for making the monies; and the said Master and Worker and the melter shall calculate and prepare the proper combination of bullion for the meltings, and shall keep a book of the meltings called the "Pot-book," declaring in the same the quantity and fineness of all manner of gold or silver and alloy put into each pot in the meltings; and the said books shall also contain the receipts of the melter and the moneyers for the bars and scissel respectively passed between them, which bars and scissel shall be weighed in the office of receipt by the weigher and teller, in the presence of one of the check-officers of the said pot-book, which said pot-book shall be monthly or oftener examined, figured and subscribed by the Comptroller and the King's Clerk, in order that the balances in the hands of the melter and moneyers may be ascertained, and they may be charged therewith; and the King's Assayer shall keep one book of all such bullion of gold and silver as shall be brought into the said Mint, whereby the quantity and fineness may appear, with the report also of the assay of every several pot, commonly called the "Pot assay," which pot assay shall be made of some bar of the said bullion, to be taken by the Comptroller, the King's Assayer, and the surveyor of the meltings, or any one of them, after the pot is cast out; and the surveyor of the meltings shall survey the meltings, and take care that the ingots, with their proper alloy only,

(V)
ROYAL MINT.

Appendix, No. 1. Order in Council; Indenture; and Agreements.

be put into the pot they are respectively set out for, and that nothing but scissel of gold and silver respectively be put into the pots of scissel, and that no bars either of gold or silver be delivered out of his custody until such time as they have been duly assayed and reported good; and that he, during the whole time the pots are melting, shall not absent himself or be out of the view of the pots so melting until they have been poured off; and the said surveyor of the meltings shall keep a book containing the weight of such gold and silver as shall be molten from time to time, with the assays put into the same, and the Comptroller and King's Assayer shall oversee and survey the assaying and melting, and, together with the superintendent of machinery, shall oversee the rolling, sizing and making the said monies of gold and silver at all times and in all places, and shall endeavour and procure that the said monies and every of them shall be made and perfected according to the true intent of this indenture and the charge committed to them; and they shall also see and procure that the balances and weights be always amended and put to point from time to time, when they shall need, so that no default be found in them to the hurt of his Majesty and his people; and when the monies shall be coined and complete, the said Master and Worker, Comptroller and Chief Clerk of his Majesty shall put them into a chest or room locked with three keys, whereof one shall remain with the said Master and Worker, one with the said Comptroller, and the third with the said Chief Clerk of his Majesty, until such time as proof and trial be had of the said monies, and payment be made to the bringers in of the said bullion accordingly, which proof shall be had and made before the deliverance of the said monies, and shall be made in the presence of the said Master and Worker, Comptroller and Chief Clerk of his Majesty, by the King's Assayer for the time being; the same assay to be taken as well of the fineness as of the weight, by such quantity and after such sort as shall be agreed on by the said Comptroller, Chief Clerk and King's Assayer; and after the said monies of gold and silver shall be assayed and proved to be good as is aforesaid, before any deliverance be made of the whole sum, a portion of the said monies shall be taken and put into a box by the said Comptroller and King's Assayer, in the presence of the said Master and Worker, whereof the assay shall be made before our Sovereign Lord the King from time to time, or such of his council as have been accustomed or shall be appointed by his Majesty at Westminster or elsewhere, as it shall please his Majesty or his said council to appoint; that is to say, for every journey weight of gold, not exceeding fifteen pounds weight, two pieces, whereof one to be for the pix and the other to be for the assay; and out of every journey weight of silver, containing sixty pounds weight, two pieces at least, one moiety thereof to be for the pix and the other for the assay, and they shall be ensealed with the seals of the said Master and Worker, Comptroller and King's Assayer; and the said box shall be shut with three keys, whereof one key shall abide with the said Master and Worker, and one key with the said Comptroller, and the third with the said King's Assayer, which pix shall remain in a chest or room as is aforesaid, and upon reasonable warning thereof given it shall be opened from time to time before our Sovereign Lord the King, or such of his council as shall be by his Majesty appointed at Westminster or elsewhere, as it shall please his Majesty or his said council to appoint; and in presence of the said Master and Worker, Comptroller and King's Assayer, there shall be assays made as well of the fineness as of the weight of the said monies of gold and silver in the said box, after the most just manner as can be thought of, to be made by fire, by water, by touch or by weight, or by all or by any of them, to the end that if any of the said monies of gold and silver be found and proved good and convenable after the covenants, orders and agreements aforesaid, the said Master and Worker shall be quit, excused and discharged against his said Majesty and all his people unto that day; and then the said Master and Worker at his will shall have letters patent of our Sovereign Lord the King, under the Great Seal of the United Kingdom of Great Britain and Ireland, to be made for his acquittance, specifying the said assays to be made and found as is aforesaid, in such sort as in ancient times has been accustomed, and without fee therefore paying, for the making which letters patent these presents shall be a sufficient warrant and discharge to the Lord Chancellor, or Lord Keeper or Lords Commissioners for the custody of the Great Seal of the United Kingdom of Great Britain and Ireland for the time being, without any further or special warrant to be issued out for the same; and if it shall be found by the assays that the pound weight troy, thoroughly tried, answereth not the full standard in fineness aforesaid, but shall be worse, but yet within the remedies aforesaid, the lack thereof shall be entered of record by the said Comptroller, and a true account thereof shall be made to his Majesty, and the same fully and wholly answered to his Majesty, without any profit or commodity to grow unto any person or persons for the same; saving always, that in case by the said assay it shall be found that the same monies of gold and silver do pass at any time the said standards, or any of them, so as the same be better in fineness or in weight, or in both, than is appointed by the standards, and yet within the remedies aforesaid, then so much to be entered of record, and hold place to the said Master and Worker in the charge which he shall have when any lack shall be found by the said assays under the standard aforesaid; and if it shall happen in the said monies of gold and silver, or either of them, upon either of the just assays as shall be made of the abovesaid boxes in manner aforesaid, be it in weight or in fineness, any default be found without the said remedies ordained for the said Master and Worker as is aforesaid, or any of them, the said Master and Worker shall make fine and ransom to his said Majesty at his will. And our said Sovereign Lord the King doth hereby authorize and require the said Master and Worker to allow and cause to be paid all manner of wastes and provisions, necessaries and charges coming, arising and growing in and about the coining of his Majesty's gold and silver monies respectively, according to the allowance in that behalf made

made by His Majesty by this present indenture out of the monies to be received by the person appointed in that behalf by the Commissioners of his Majesty's Treasury under the Act of the 39th year aforesaid. And the said master and worker is hereby likewise appointed and authorized, out of the monies to be paid to him as aforesaid, to retain and keep in his own hands yearly a competent sum of money for the paying and discharging of the several and respective salaries of the several and respective officers of the Mint and clerks mentioned in the Schedule hereunto annexed, according to the distribution and appointment mentioned in the said Schedule, and which salaries shall be by the said master and worker paid net and without deduction, and such other expenses as have been usually paid by him. And our said Sovereign Lord the King doth hereby require and command that the said master and worker do account yearly before the Commissioners for auditing the public accounts, and that upon his said account after the charge therein shall be properly avouched by the officers of the board hereinafter named, or any three of them, the said master and worker shall have full allowance, defalcation and discharge of and for all such sums of money as he shall duly pay and disburse according to the directions in these presents expressed, and according to the course of the said Mint as by the said Acts of Parliament is directed and appointed. And his said Majesty, by these presents, doth also will and ordain that the said comptroller of the Mint for the time being shall deliver upon oath, taken before one of the Barons of the Exchequer, a roll which shall be called the Comptroller's Roll, containing an account of all the gold and silver monies coined monthly in the said Mint. And our Sovereign Lord the King for the better management of the affairs of the Mint, and for ordering, examining and avouching the accounts and expenditure of the Mint, doth hereby ordain that the master and worker or his deputy, the King's assayer, the comptroller, the King's clerk and the superintendent of machinery, shall form a board, of whom any three of the said officers, the master and worker or his deputy being one, shall be competent to act, and the said board shall meet every Wednesday or on such other days as they shall appoint, and shall determine the hours of attendance of the several officers for the receipt of all such bullion as shall be brought into the Mint, and for delivery out of the coined monies and all other business of the Mint, and shall give directions in all matters wherein authority is given to them by these presents; and the said board, as often as need shall require, shall and may take up as many engravers to grave irons at His Majesty's price, as also as many smiths, workmen and labourers and other necessaries to and for the making the said irons and monies aforesaid, and the doing of all manner of business within the Mint as to the said board shall seem needful, in which taking of such engravers, smiths, workmen and labourers and other necessaries, our Sovereign Lord the King doth will and command by this indenture all mayors, sheriffs and other officers that they be assisting, aiding, helping and fortifying as to right doth belong. And our Sovereign Lord the King doth will and grant by these presents, that it shall be lawful for the said board at all times such and so many of the said engravers, smiths, workmen and labourers as by their directions be not of good bearing in their offices and labours, to punish and put out and avoid and amove, as to the said board shall seem meet, according to right and for His Majesty's weal. And our said Sovereign Lord the King doth hereby will and require that neither the provost nor any other of the master-moneyers, either singly by himself or jointly as a corporation, do or shall take any apprentice to be instructed or brought up in the art and mystery of a moneyer, or any part thereof, without the licence and permission of the said master and worker first had and obtained in writing under his hand. And our said Sovereign Lord the King doth hereby further command that no deputy master shall be at any time appointed or amoved by the said master and worker without the consent and approbation in writing of the Commissioners of His Majesty's Treasury for the time being, and that it shall not be competent for the deputy master at any time hereafter to contract for or derive any advantage from the melting of any bullion of gold or silver, but that it shall be lawful for the master's first clerk to make any such contract, and that every person contracting for such melting shall contract to employ and instruct the master's second clerk in the art of melting bullion of gold and silver. And our said Sovereign Lord the King doth further command that the King's assayer shall be bound to instruct in the art of assaying the probationer assayer, who shall be nominated by the King's Assayer and approved by the master and worker for the time being. And our Sovereign Lord the King doth further command that no person or persons do live or inhabit within His Majesty's Mint on Tower-hill aforesaid, except such officers, workmen, moneyers and ministers of the said Mint and such other persons as have a right thereto; and that the melter and also His Majesty's chief clerk and clerk of the papers be henceforth required to reside therein. And also our Sovereign Lord the King doth will that the said melter, moneyers and all workmen and ministers of the said Mint shall be ready to do their work at all times without denial, when they shall be wanted by the said master and worker, upon pain of losing their franchises and bodies in prison. And our said Sovereign Lord the King doth hereby command and enjoin the provost and the rest of the moneyers of the Mint, with their respective apprentices, that they do duly attend His Majesty's service in the present way of coining as need shall require both morning and afternoon, and to work in such tasks and so many hours every day (Sunday only excepted) as shall be thought fit and appointed by the said board, according to the labour of their respective tasks and the length of the days; and in case the said provost and moneyers or any of their apprentices shall wilfully neglect or refuse to attend and do their duties accordingly, then the said board are hereby required and authorized to proceed against any of the said persons so offending, and to expel, amove or otherwise punish them and every of them as in reason and justice they shall think fit for His Majesty's service, according to the

(A.)
Royal Mint.
Appendix, No. 1.
Order in Council; Indenture; and Agreements.

ancient powers and authorities of right belonging to the principal officers of the Mint. And it is hereby strictly commanded and enjoined by his said Majesty, that neither the provost or any of the moneyers of the said Mint, their apprentices or servants, do or shall at any time after the date hereof presume to vend, pay or distribute any piece or pieces of His Majesty's coined monies, either of gold or silver, until the same shall be delivered by them according to the course of the Mint into His Majesty's office of receipt there, and duly assayed and pixed, upon pain of forfeiting their franchises and bodies to prison. And our Sovereign Lord the King doth hereby will and command that the superintendent of machinery and clerk of the irons do superintend the die press-room, and do purchase or procure to be forged at the cheapest rate, to be approved by the said board, all such dies as shall be ordered by the said board for the time being, and do keep a true account of all the blank dies for the coining of the gold and silver monies which shall from time to time be delivered to the chief engraver or engravers of His Majesty's Mint for the time being, and also of the blank dies which shall be sunk or stamped, which after sinking shall be fit for use and hardened; and the engravers are hereby likewise enjoined monthly to return unto the said superintendent and clerk as many dies as shall from time to time be found faulty and worn by using in the said Mint, or otherwise to be defaced in the presence of the master and worker or comptroller of the said Mint, and not otherwise. And the said superintendent and clerk is hereby further enjoined to give an account to the said master and worker and comptroller, as he shall be thereunto required by them, of what blank dies have been delivered unto the engravers, or sunk by them, or hardened by the smith, and what faulty and worn dies have been returned by them to be defaced, as also what others are remaining in their hands, that a just account may be kept of the same. And it is hereby enjoined that said engravers shall not work or make or grave any puncheons, matrices, dies or stamps for the making or coining of any money, gold or silver, but only in such houses or places in His Majesty's Mint as shall have been thereunto assigned. And for the covenants, agreements, grants and premises above said well and truly to be holden and performed on the part of the said master and worker, and that he shall bear himself towards his said Majesty and his people in the said office well and convenably, and for more surety to make gree to the King and to the merchants of that belonging to them of the gold and silver which he shall receive by and in manner as is aforesaid, while he shall be in the said office, the aforesaid William Wellesley Pole hath found burrows and sureties before our Sovereign Lord the King in His Majesty's Exchequer in the sum of 20,000 *l.*, and that upon pain thereof he shall make gree to the King's Majesty and merchants in manner and form as is aforesaid. And our Sovereign Lord the King doth hereby grant and agree that when the said William Wellesley Pole, his heirs, executors or administrators shall have duly passed his, her and their final account, and paid what balance shall appear thereon due to His Majesty, his heirs and successors, and delivered to the proper officers of the Mint for the time being all such bullion of gold and silver scissel and coined monies as shall be in his, her or their hands, sufficient to make full payment and discharge to His Majesty and the bringers in of such gold and silver, that then and upon the said William Wellesley Pole, his heirs, executors or administrators having duly obtained his, her or their quietus or discharge and certificate from the officers of the Mint of His Majesty, and the bringers in of such gold and silver bullion being duly satisfied, the said William Wellesley Pole, his heirs, executors or administrators shall have not only the bond or obligation entered into by himself, but also all the other bonds or obligations entered into by his burrows and sureties, delivered up to him to be cancelled. And His Majesty doth hereby further declare his pleasure to be, that these presents and the agreements herein contained shall be of force and have continuance only during His Majesty's pleasure, anything in these presents contained to the contrary notwithstanding. In witness whereof, to the one part of these present indentures remaining with the said William Wellesley Pole, His Majesty hath caused the great seal of the United Kingdom of Great Britain and Ireland to be affixed, and to the other part thereof remaining with his said Majesty, the said William Wellesley Pole hath set his hand and seal the day and year first above written.

A Schedule of Prices to be allowed for the Coinage of every Pound Weight Troy of Gold and Silver Monies.

		£.	s.	d.
Gold:				
Five pound pieces	per lb.	–	6	
Double sovereigns	—	–	6	–
Sovereigns	—	–	6	8 ¼
Half-sovereigns	—	–	7	10 ½
Silver:				
Crowns	—	–	1	5 ¼
Half-crowns	—	–	1	5 ¾
Shillings	—	–	1	10 ½
Half-shillings	—	–	2	2
Groats	—	–	2	4 ¾
Half-sixpences	—	–	2	9 ¼
Half-groats	—	–	3	2 ¼
Pennies	—	–	3	11 ¼

A Schedule

215

(A.)
ROYAL MINT.

Appendix, No. 1.
Order in Council; Indenture; and Agreements.

A SCHEDULE of the highest Prices to be allowed to the Moneyers under the foregoing Indenture for every Pound Weight Troy of Gold and Silver Monies Coined and delivered by him.

		£.	s.	d.
GOLD:				
Five pound pieces	per lb.	–	3	–
Double sovereigns	—	–	3	–
Sovereigns	—	–	3	6
Half-sovereigns	—	–	4	6
SILVER:				
Crowns	—	–	–	10 ½
Half-crowns	—	–	–	10 ½
Shillings	—	–	1	2
Half-shillings	—	–	1	4 ½
Groats	—	–	1	6 ½
Half-sixpences	—	–	1	9
Half-groats	—	–	2	–
Pennies	—	–	2	6

A SCHEDULE of the Highest Prices to be allowed to the Melter under the foregoing Indenture, upon every Pound Weight Troy of Gold and Silver Monies Coined and delivered.

		£.	s.	d.
GOLD:				
Five pound pieces	per lb.	–	–	8 ⅔
Double sovereigns	—	–	–	8 ⅔
Sovereigns	—	–	–	10
Half-sovereigns	—	–	–	11 ⅓
SILVER:				
Crowns	—	–	–	2 ⅓
Half-crowns	—	–	–	2 ⅓
Shillings	—	–	–	3
Half-shillings	—	–	–	3 ⅔
Groats	—	–	–	4
Half-sixpences	—	–	–	4 ⅔
Half-groats	—	–	–	5
Pennies	—	–	–	6 ⅔

A SCHEDULE of the Salaries of the Officers of His Majesty's Mint, per annum.

	£.	s.	d.
To the deputy-master	800	–	–
To the deputy-comptroller (this office to become principal, at the same salary, upon the death or retirement of the present comptroller, and no deputy to be afterwards appointed)	600	–	–
To the King's assayer	900	–	–
To the King's clerk and clerk of the papers	400	–	–
To the superintendent of machinery and clerk of the irons	700	–	–
To the master's assayer	400	–	–
To the master's first clerk	100	–	–
To each member of the Company of Moneyers, when the whole coinage of gold and silver monies in the Mint in one year shall not amount to 500,000 *l.*	40	–	–
To the chief engraver	500	–	–
To the weigher and teller	200	–	–
To the surveyor of meltings	100	–	–
To the surveyor of money presses	100	–	–
To the probationer assayer	200	–	–
To the second engraver	200	–	–
To the master's second clerk	80	–	–
To the Mint porter	70	–	–
To the master's porter	52	–	–
To the fireman to the King's assayer	88	–	–
To the fireman to the master's assayer	62	–	–
To the office-keeper	25	–	–
To the necessary woman	30	–	–
To the gate porters, each, per diem	–	3	6
To the watchman – – ditto	–	3	6
To one jobman – – – ditto	–	3	6
To sweeping the premises (per annum)		–	–
To the solicitor, in lieu of all charges whatever, except the money actually out of pocket	1,200	–	–
To the stamper of money weights	250	–	–
To the minister of the Tower	12	–	–
To the sexton	3	–	–

(A.)
Royal Mint.

Appendix, No. 1.
Order in Council; Indenture; and Agreements.

	£.	s.	d.
To the warden	434	2	–
To his clerk and deputy	70	2	–
To his other clerk	92	10	–
To the comptroller as at present, but to be increased to 600 *l.* per annum upon the death or retirement of the present comptroller	289	10	–
To each of the officers aforesaid whose salary shall amount to 400 *l.* or upwards, except the solicitor, after such officer shall have been upon the establishment of the Mint for ten years, and the master and worker shall have certified his good conduct to the Commissioners of the Treasury, an addition, so long as such officer shall continue on the establishment, of, per annum	20	–	–
And for every period of three years during which he shall continue on the establishment after ten years, a further addition of, per annum	15	–	–
To each of the officers aforesaid, whose salary shall amount to 100 *l.*, and not amount to 400 *l.*, after such officer shall have been upon the establishment of the Mint for ten years, and the said master and worker and board of Mint officers shall have certified his good conduct to the Commissioners of the Treasury, an addition, so long as he shall continue on the establishment, of, per annum	15	–	–
And for every period of three years, during which he shall continue on the establishment after ten years, a further addition of, per annum	10	–	–

Articles of Agreement indented, made, concluded and agreed upon the 8th day of November, in the 1st year of the reign of our Sovereign Lord, George the Fourth, by the grace of God of the United Kingdom of Great Britain and Ireland King, Defender of the Faith, and in the year of our Lord 1820; between The Right Honourable William Wellesley Pole, Master and Worker of His Majesty's Mint, of the one part, and Joseph Sage, Henry William Atkinson, Reuben Fletcher, Richard Franklyn the elder, Joseph Nicoll, Jasper Atkinson, Robert Finch and Richard Franklyn the younger, being the Provost and Company of Moneyers of His Majesty's said Mint, of the other part.

Whereas the said Wellesley Pole, in pursuance of the power and authority to him for that purpose given in and by a certain indenture, bearing date the 16th day of August 1815, and made between our late Sovereign Lord the King of the one part, and the said William Wellesley Pole of the other part, and with the approbation of the Lords Commissioners of His Majesty's Treasury, did, in the month of March 1816, contract and agree with the then Provost and Company of Moneyers of His Majesty's Mint for the coinage of gold and silver monies of His Majesty's said Mint, upon the terms and conditions mentioned in a certain agreement then entered into: And whereas since the said agreement was entered into certain machinery, invented by John Barton, esq., the deputy comptroller of His Majesty's Mint, has been erected at the said Mint, whereby the coinage of gold and silver monies is much facilitated, and the said Provost and Company of Moneyers have therefore agreed that a reduction of 2 *l.* per cent. on the prices now paid to them by virtue of the said former agreement shall be made; and the said William Wellesley Pole hath, with the approbation of the Lords Commissioners of His Majesty's Treasury, agreed with the said Provost and Company of Moneyers to continue the said coinage of gold and silver monies at His Majesty's said Mint upon the terms and conditions in the said former agreement and hereinafter mentioned, subject nevertheless to the said reduction or allowance of 2 *l.* per cent. upon all monies to be paid to the said moneyers, as hereinafter mentioned: Now these presents witness, and the said William Wellesley Pole, for himself and for the master and worker of His Majesty's Mint for the time being, doth hereby covenant, promise and agree to and with the said Provost and Company of Moneyers, that he the said William Wellesley Pole and the master and worker of His Majesty's said Mint for the time being shall and will pay and allow unto the said Provost and Company of Moneyers for the coining of all gold and silver, on every pound weight of the several species of coin which shall be coined and delivered into the office of receipt of His Majesty's Mint, the rates specified in the Schedule hereunto annexed, subject to the deduction of 2 *l.* per cent. hereinafter mentioned; and the said Provost and Company of Moneyers do hereby covenant, promise and agree to and with the said William Wellesley Pole and the master and worker of His Majesty's Mint for the time being, in manner following; that is to say, that they the said Provost and Company of Moneyers shall and will receive all gold and silver which shall be delivered to them by the melter, in bars of such size and dimensions as the said William Wellesley Pole, or the master and worker or deputy-master and worker of His Majesty's Mint for the time being shall direct, which bars are to be weighed in the aforesaid office of receipt by the weigher and teller for the time being of His Majesty's said Mint, under the check of the comptroller or King's clerk, as directed by the aforesaid indenture of the 16th day of August 1815, and shall coin the same into such sort and proportions of the different species of coin mentioned in the First Schedule hereto as the said William Wellesley Pole, or the master and worker or deputy-master and worker of His Majesty's Mint for the time being shall from time to time direct, under the inspection of the King's assayer, comptroller and superintendent of the machinery for the time being of

His

His Majesty's said Mint, and agreeable to the directions in the said indenture of the 16th day of August 1815 for that purpose contained; and the said gold and silver so coined and approved by the King's assayer, comptroller and King's clerk for the time being of His Majesty's said Mint at the pixing thereof, they the said Provost and Company of Moneyers shall and will deliver in the said office of receipt to the said William Wellesley Pole, or the master and worker or deputy-master and worker of His Majesty's said Mint for the time being; and if anything lack of weight at the time of such delivery, the said Provost and Company of Moneyers shall and will make good such deficiency to the said William Wellesley Pole, or the master and worker for the time being of His Majesty's said Mint; and further, that they the said Provost and Company of Moneyers shall and will make out of such parts of the said bars to be delivered to them by the said melter as aforesaid, as shall be clean and manufacturable and fit to be wrought, seven-twelfths into money, so that there be only five-twelfths of scissel and light work to return to the said melter, exclusive of the faulty ends of the bars, or such parts thereof as cannot be wrought, and the said scissel and light work and ends respectively made in clean parcels, shall be weighed by the weigher and teller of His Majesty's said Mint for the time being in the said office of receipt, in the manner aforesaid, and delivered to the melter; and further, that they the said Provost and Company of Moneyers shall bear and sustain all manner of waste and charges in and about the making of the said monies, and in working up their limail and sweep, and shall furnish, at their own proper costs, all necessary utensils and implements used in the coinage in their department; and, for carrying on the business with all necessary despatch, shall supply the different workshops and engines with all coal, oil, tallow and other necessaries, also with all copper and wooden trays and bowls, scales, weights, shears, tubs and other vessels; and, during the time the Mint is at work, shall keep in repair all the annealing and other furnaces, and all the machinery and apparatus erected in the mill rooms, cutting-out rooms, and press rooms and other workshops, and about the steam-engines in their department; and the said Provost and Company of Moneyers shall also repair and keep up the scissel boxes, trucks for conveying the metal to the office, and other necessaries of this description used by them, all which articles are more particularly mentioned and set forth in the Second Schedule hereunto annexed; and further, that they the said Provost and Company of Moneyers shall and will, at the end of every coinage, leave the said furnaces, machinery and other apparatus and materials in good repair and working order, reasonable use and wear thereof only excepted, the said William Wellesley Pole, or the master and worker of His Majesty's Mint for the time being, providing and allowing, at the public expense, all buildings and repairs of the different workshops, offices and other buildings now used, or which shall or may hereafter be used by the Provost and Company of Moneyers for the coinage in His Majesty's said Mint. And whereas the said William Wellesley Pole has, under the authority of the Lords Commissioners of the Treasury, employed at stipulated wages certain skilful artificers for the purpose of fabricating such tools and implements as are required for the working of the machinery, and for repairing the same and other services connected therewith; Now it is hereby agreed between the said William Wellesley Pole and the said Provost and Company of Moneyers, that during such time as the said workmen and artificers shall be employed in the said coinage, and also during such further time as may be necessary after any coinage for arranging and repairing the tools and machinery, so as to leave the same in a state fit for recommencing the coinage, they the said Provost and Company of Moneyers shall pay to the said workmen and artificers so employed by the said William Wellesley Pole, or the master and worker of His Majesty's Mint for the time being, such wages or sums of money as are now paid, or as the said master and worker of His Majesty's Mint for the time being shall think reasonable and direct to be paid to such workmen and artificers; and during such time as the said workmen and artificers shall not be so employed as aforesaid, their wages shall be paid by the said William Wellesley Pole, or the master and worker of His Majesty's said Mint for the time being, at the public expense. And it is further agreed between the said parties hereto, that the superintendent of machinery for the time being at His Majesty's said Mint shall from time to time certify and state to the board of officers at His Majesty's Mint during what period the said workmen and artificers have been employed in the said coinage, or in arranging or repairing the said tools and machinery, in order that the due proportion of wages to be paid to such workmen and artificers by the said Provost and Company of Moneyers and the public may be arranged and settled without dispute or difficulty by the said William Wellesley Pole and the said Provost and Company of Moneyers and by the public, in such proportions as the said superintendent of machinery for the time being shall appoint. And the said Provost and Company of Moneyers do further covenant and agree, that they the said Provost and Company of Moneyers shall make up their account with the said William Wellesley Pole, or the master and worker of His Majesty's Mint for the time being, at the expiration of every year ending on the 31st day of December, or within one month afterwards, or at any other time during the year upon one month's notice duly given to them in writing by the said William Wellesley Pole, or the master and worker or deputy-master and worker of His Majesty's Mint for the time being, and shall at the same time pay or deliver into the office of receipt aforesaid such balance of gold or of silver, or of both, as they the said Provost and Company of Moneyers shall then appear to have or remain charged with on the books of the Mint, upon payment of all arrears due to them on the coinage, according to the forms and prices aforesaid, subject to such deduction of two per cent. as hereinbefore and hereinafter mentioned: And further, that they the said Provost and Company of Moneyers shall and will save harmless and indemnify the said William Wellesley Pole and the master and worker of His Majesty's Mint for

(A.)
Royal Mint.

Appendix, No. 1.
Order in Council; Indenture; and Agreements.

for the time being, and the public, from all loss, damage and expense in and about the said coinage, except in respect to such repairs, matters and things as are to be provided at the public expense as aforesaid; and the said Provost and Company of Moneyers do further covenant and agree, that they the said Provost and Company of Moneyers shall and will, from the 11th day of August last, deduct and allow upon all monies to become due and payable to them for the coinage of gold and silver monies the sum of 2 *l.* for every 100 *l.* so to become due and payable, and so in proportion for any greater or less sum than 100 *l.* And lastly, it is hereby agreed and declared, between the said William Wellesley Pole and the said Provost and Company of Moneyers, that it shall be lawful for either of them to determine this agreement, after three months' notice given in writing by either party to the other for that purpose; and that on payment and delivery of all balances between the said parties, this agreement, and a bond entered into by the said Provost and Company of Moneyers, in the penalty of 5,000 *l.*, for the due and punctual performance of this agreement, shall be delivered up, cancelled and discharged. In witness whereof the said parties to these presents have hereunto set their hands and seals, the day and year first above written.

The First Schedule to which the foregoing Agreement refers.

Gold.

	s.	d.	
Five-guinea pieces, or 5 *l.* pieces	3	–	per pound.
Two-guinea pieces, or 2 *l.* pieces	3	–	per pound.
Guineas or sovereigns	3	6	per pound.
Half-guineas or half-sovereigns	4	6	per pound.
Thirds of guineas	6	–	per pound.
Quarter-guineas	7	–	per pound.

Silver.

Crowns	–	10½	per pound.
Half-crowns	–	10½	per pound.
Shillings	1	2	per pound.
Sixpences	1	4½	per pound.
Groats	1	6½	per pound.
Threepences	1	9	per pound.
Twopences	2	–	per pound.
Pence	2	6	per pound.

The Second Schedule to which the foregoing Agreement refers.

Thirty-horse steam-engine, boiler, wheels and gearing.

Great Rolling Room.

Wheels and gearing-shafts, great shears, two circular shears and two spare steel cutters, furnaces, pickling cisterns and tubs; four rolling mills, with two sets of rollers to each; frying cutters, annealing chariots, scales, trays, scissel boxes, trucks.

Cutting-out Room.

Twelve cutting-out presses, with apparatus.

Gold Room.

One adjusting rolling mill, with two sets of rollers; hand cutting-out presses.

Triturating and Lathe Room.

Triturating apparatus; great lathe for turning rollers; lap for polishing rollers; sixteen-horse steam-engine, boiler, wheels and gearing.

Artificers' Turning Room.

Two lathes, moved by sixteen-horse engine; vices, forge, grindstone, tools of different sorts.

Marking Room.

Six marking engines, with apparatus.

Annealing Room.

Four furnaces, annealing tubes.

Shaking Room.

Three shaking machines, and apparatus; drying plates, muffle, shaking bags.

Blanching Room.

Blanching kettles, and fixing blanching tubs and cullenders.

Adjusting

Adjusting or Sizing Room.

Old sizing tables, from the Mint in the Tower; leather sizing-aprons, sizing-vices, scales, balances, files and cullenders; ten-horse steam-engine, boiler.

Coining Room.

Eight coining presses, with apparatus; one layer-on to each press, with three pairs of pliers to each layer-on.

Moneyers' Smiths' Shop.

Forge, anvils, grindstone and tools.

Millwrights' Pattern Room.

Patterns of various sorts, fuel of all sorts, labour acids, waste of metal and deficiencies, oil, tallow, tow, trays, chips, sawdust, sieves, and various other necessary articles for carrying on the business of coining.

Joseph (L. S.) *Sage.*
Henry Wm. (L. S.) *Atkinson.*
Reuben (L. S.) *Fletcher.*
Richard (L S.) *Franklyn.*
Joseph (L. S.) *Nicoll.*
Jasr. (L. S.) *Atkinson.*
Robert (L. S.) *Finch.*
Richard (L. S.) *Franklyn*, jun.

Sealed and delivered by the within-named Joseph Sage, in the presence of
Sarah Sage.

Sealed and delivered by the within-named Henry William Atkinson, Reuben Fletcher, Richard Franklyn the elder, Joseph Nicoll, Jasper Atkinson, Robert Finch, and Richard Franklyn the younger, in the presence of
William Francklin, Lincoln's Inn.

Entered in the office of the Commissioners for Auditing the Public Accounts, Somerset-place.
1 November 1822. *T. R. Downes.*

Articles of Agreement indented, made, concluded and agreed upon the 18th day of April, in the ninth year of the reign of our Sovereign Lord King George the Fourth, by the grace of God of the United Kingdom of Great Britain and Ireland King, Defender of the Faith, and in the year of our Lord 1828; between The Right Honourable John Charles Herries, Master and Worker of His Majesty's Mint, of the one part, and Gilbert Farquhar Græme Mathison, of His Majesty's Mint, First Clerk of the said Master and Worker of His Majesty's said Mint, of the other part.

Whereas the said John Charles Herries, in pursuance of the power and authority to him given in and by a certain indenture, bearing date the 12th day of February last, and made between our Sovereign Lord the King of the one part, and the said John Charles Herries of the other part, and with the approbation of the Lords Commissioners of His Majesty's Treasury, did contract and agree with the said Gilbert Farquhar Græme Mathison for melting and casting all gold and silver for the coinage of the monies of His Majesty's Mint, and also for refining such gold and silver as might be necessary for carrying on the coinage of His Majesty's Mint upon the terms and conditions hereinafter mentioned: Now these presents witness, and the said John Charles Herries for himself and for the master and worker of His Majesty's Mint for the time being, doth hereby covenant, promise and agree to and with the said Gilbert Farquhar Græme Mathison, his executors and administrators, that he the said John Charles Herries and the master and worker of His Majesty's Mint for the time being shall and will pay and allow unto the said Gilbert Farquhar Græme Mathison, for the melting and casting of all gold and silver for the coinage of monies at His Majesty's Mint, the several prices or sums mentioned in the Schedule hereunto annexed, for every pound weight troy of the several species of coin mentioned in the said Schedule, which shall be coined and delivered into the office of receipt of His Majesty's Mint aforesaid, from gold or silver molten by the said Gilbert Farquhar Græme Mathison, subject to a deduction of 2 *l.* per cent. as is hereinafter mentioned. And further, that he, the said John Charles Herries, and the master and worker of His Majesty's said Mint for the time being, shall and will pay and allow unto the said Gilbert Farquhar Græme Mathison, his executors or administrators, for the refining all such gold and silver as may be requisite for carrying on the coinage of His Majesty's said Mint, such price or sum as shall be one-sixth lower or under the said trade price, at the time or times of such refining, the said several sums for melting and refining to be paid to the said Gilbert Farquhar Græme Mathison, his executors or administrators (subject to such deduction of 2 *l.* per cent. as aforesaid from the said sums to be paid for melting) within one month next after the expiration of any year ending on the 31st of December. And the said Gilbert Farquhar Græme Mathison for himself, his executors and administrators, doth hereby covenant and agree to and with the said John Charles Herries and the master and worker of His Majesty's Mint for the time being, in manner following; that is to say, that he the said Gilbert Farquhar Græme Mathison shall and will prepare and calculate,

(A.)
ROYAL MINT.

Appendix, No 1.
Order in Council; Indenture; and Agreements.

under the directions of the said John Charles Herries, or the master and worker or deputy-master and worker of His Majesty's said Mint for the time being, the proper combination of bullion for producing the right standard, previous to the melting and casting of any gold or silver bullion which shall be delivered to him; and also shall and will receive all such gold and silver and alloy which shall be delivered to him by weight from the aforesaid office of receipt, under the check and according to the report of the comptroller and King's clerk of His Majesty's said Mint for the time being, and shall melt the same without delay, and cast it into such sized bars as the said John Charles Herries, or the master and worker or deputy-master and worker of His Majesty's said Mint for the time being shall direct, and under the inspection of the surveyor of the meltings and King's assay-master of His Majesty's said Mint for the time being; and the said gold and silver, so cast and approved by the King's assay-master for the time being, and he the said Gilbert Farquhar Græme Mathison shall deliver by the same weight (such weight to be ascertained and settled by the weigher and teller of His Majesty's said Mint for the time being) to the Provost and Company of Moneyers of His Majesty's said Mint, in the said office of receipt, under the inspection of the comptroller or King's clerk of His Majesty's said Mint for the time being, in clean bars fit for manufacturing into coin; and if any such bars or ends of bars shall afterwards prove faulty in the working, he the said Gilbert Farquhar Græme Mathison shall take them back as unmanufacturable, and the same, together with all scissel and light work or blanks returned from the moneyers to the said office of receipt, he the said Gilbert Farquhar Græme Mathison shall melt anew and cast into other bars, under the like checks and restrictions, and to be delivered as aforesaid; and so from time to time, as occasion shall require, and as the said John Charles Herries, or the master and worker or deputy-master and worker of His Majesty's said Mint for the time being shall direct, provided such scissel and light work together do not exceed five twelfth parts of the clean and manufacturable bars delivered to the moneyers for coinage as aforesaid, agreeable to the terms of the aforesaid indenture of the 12th day of February last (1828). And further, that he the said Gilbert Farquhar Græme Mathison shall bear and sustain all manner of waste and charges in and about the said melting and refining of gold and silver, and in working up the sweeps thereof, and shall and will furnish, at his own proper costs, all necessary utensils for the same, and for carrying on the said business with all necessary despatch. And he the said Gilbert Farquhar Græme Mathison shall supply the melting-houses and refinery with all such materials as are requisite, such as melting-pots, stands, stirrers, coke and all fuel, quick-silver, and fluxes, and all acids, water-silver and other necessaries proper for the refinery, and also shall and will, during the time of coinage, keep and preserve in repair all furnaces, machinery and apparatus in and about the melting-houses, triturating mill and refinery, and also the iron flasks and moulds, copper trays and bowls, seals and weights, scissel and ingot boxes, and the trucks for conveying the metal to and from the melting-house, and also the glass matrices, stills, tubs and other vessels in the refinery, and shall and will keep and preserve the same in the same order and number in which they were delivered to him the said Gilbert Farquhar Græme Mathison; the said John Charles Herries, or the master and worker of His Majesty's said Mint for the time being, providing and keeping in repair, at the public expense, all houses and workshops which shall be necessary for melting, triturating and refining the said gold and silver so to be delivered to the said Gilbert Farquhar Græme Mathison as aforesaid; and also allowing to the said Gilbert Farquhar Græme Mathison the use of a forge in the shop at His Majesty's Mint aforesaid, now used by the die forger, the better to enable him the said Gilbert Farquhar Græme Mathison to preserve and keep the various tools and implements so that they may be always ready for service. And further, that he the said Gilbert Farquhar Græme Mathison shall and will, if so required, cause to be taught and instructed the second clerk for the time being of the said master and worker in the art of melting, and shall and will, if so required, take such second clerk into his employ, in order that such second clerk may assist in the various duties imposed upon the master's first clerk and melter both in the melting house and in the office of receipt. And the said Gilbert Farquhar Græme Mathison shall make up his account of melting with the said John Charles Herries, or the master and worker of His Majesty's Mint for the time being, at the expiration of every year ending on the 31st day of December, or within one month afterwards, or at any other time during the year, upon one month's notice duly given to him in writing by the said John Charles Herries, or the master and worker or deputy-master and worker of His Majesty's Mint for the time being, and shall at the same time pay or deliver into the said office of receipt aforesaid such balance of gold or of silver or of both of them as he the said Gilbert Farquhar Græme Mathison shall then appear to have or remain charged with on the books of the Mint-office, upon payment of all arrears due to him for melting and refining, according to the terms and prices aforesaid, subject to such deduction of 2*l.* per cent. as hereinbefore and hereinafter mentioned; and that he the said Gilbert Farquhar Græme Mathison shall save harmless and indemnify the said John Charles Herries and the master and worker of His Majesty's said Mint for the time being and the public from all loss, damage and expense in about the said business of melting and refining in His Majesty's said Mint, except in respect of such repairs, matters and things as are to be provided and found at the public expense as aforesaid. And the said Gilbert Farquhar Græme Mathison doth further covenant and agree, that he the said Gilbert Farquhar Græme Mathison shall and will deduct and allow, upon all monies to become due and payable to him under and by virtue of this agreement, for melting and casting such gold and silver, the sum of 2*l.* for every 100*l.* so to become due and payable for such melting and casting (the said deduction being a saving to the public by the increased facility of the operations by means of certain machinery

machinery invented by John Barton, esq. the deputy-comptroller of His Majesty's Mint), and so in proportion for any greater or less sum than 100 *l.* And it is hereby declared and agreed by and between the said John Charles Herries and Gilbert Farquhar Græme Mathison, that it shall be lawful for either of them to determine this present agreement after three months' notice given in writing by either party to the other for that purpose; and that on payment and delivery of all balances between the said parties, this agreement, and also a bond entered into by the said Gilbert Farquhar Græme Mathison with Robert Herries, of St. Julien's in the county of Kent, esq., and the Rev. Archdeacon Anthony Hamilton, of Loughton in the county of Essex, as his sureties, in the penalty of 5,000 *l.*, for the due and punctual performance of this agreement, shall be delivered up and cancelled. And, lastly, it his hereby declared by and between the parties to these presents, that nothing herein contained shall extend to charge the said John Charles Herries with any breach of covenant, action or process whatsoever, whereby his person or estate may be liable for the nonperformance of the covenants hereinbefore contained. In witness whereof the said parties to these presents have hereunto interchangably set their hands and seals, the day and year first above written.

J. C. Herries. (L. S.)
G. F. Mathison. (L. S.)

Signed, sealed and delivered by the said John Charles Herries and Gilbert Farquhar Græme Mathison, in the presence of

J. Blunt, 10, Liverpool-street, Solicitor to the Mint.

The Schedule to which the foregoing Agreement refers.

		£.	s.	d.
Gold:				
Five-guinea pieces or five-pound pieces	per lb.	–	–	8 2/3
Two-guinea pieces or two-pound pieces	—	–	–	8 2/3
Guineas or sovereigns	—	–	–	10
Half-guineas or half-sovereigns	—	–	–	11 1/3
Seven-shilling pieces	—	–	1	3
Quarter guineas	—	–	1	5 1/3
Silver:				
Crowns	—	–	–	2 1/3
Half-crowns	—	–	–	2 1/3
Shillings	—	–	–	3
Sixpences	—	–	–	3 2/3
Groats	—	–	–	4
Threepenny	—	–	–	4 2/3
Twopenny	—	–	–	5
Pennies	—	–	–	6 2/3

Entered in the office of the Commissioners for Auditing the Public Accounts, Somerset Place.

14 July 1829. *T. R. Downes.*

Articles of Agreement, indented, made and concluded upon the 9th day of July, in the year of our Lord 1833, between The Right Honourable George Lord Auckland, Master and Worker of His Majesty's Mint, of the one part, and Gilbert Farquhar Græme Mathison, Esq., of the other part.

Whereas by Articles of Agreement, bearing date the 18th day of April, in the year of our Lord 1828, between the Right Honourable John Charles Herries, then Master and Worker of His Majesty's Mint, of the one part, and the said Gilbert Farquhar Græme Mathison, esq., of the other part, It was covenanted and agreed by the said John Charles Herries, among other things, that the said John Charles Herries should pay and allow to the said Gilbert Farquhar Græme Mathison, for the refining all such gold and silver as might be requisite for carrying on the coinage of His Majesty's Mint, such price or sum as should be one-sixth lower or under the trade price at the time or times of such refining;

(A.)
Royal Mint.

Appendix, No. 1.
Order in Council; Indenture; and Agreements.

and the said Gilbert Farquhar Græme Mathison did thereby covenant, among other things, that he would supply the melting houses and refinery with all such materials as were requisite, such as melting pots, stands, stirrers, coke, charcoal, fuel, quicksilver and fluxes, and all acids, water silver, and all other necessaries proper for the refining; and also should and would, during the time of coinage, keep and preserve in repair all furnaces, machinery and apparatus in and about the melting houses, triturating mill and refinery, and also all the iron flasks and moulds, copper trays and bowls, scales and weights, scipe and ingot boxes, and the trucks for conveying the metal to and from the melting house, and also the glass mattrices, stills, tubs and other vessels in the refinery, and should and would keep and preserve the same in the same order and number in which they were delivered to him the said Gilbert Farquhar Græme Mathison, the said John Charles Herries, or the Master and Worker of His Majesty's Mint for the time being, providing and keeping in repair, at the public expense, all houses and workshops which shall be necessary for melting, triturating and refining the said gold and silver so to be delivered to the said Gilbert Farquhar Græme Mathison as aforesaid, and also allowing to the said Gilbert Farquhar Græme Mathison the use of a forge in the shop at His Majesty's Mint aforesaid, now used by the die forger, the better to enable him the said Gilbert Farquhar Græme Mathison to preserve and keep in order the various tools and implements, so that they might be always ready for service. And whereas the said Gilbert Farquhar Græme Mathison having, under the direction and authority of the Right Honourable John Charles Herries, late Master of the Mint, laid out a considerable sum of money in certain works and utensils, in order to bring into use a new process and improvement in the art of refining the precious metals, and having succeeded in proving the benefits and advantages to be derived therefrom, the Lords Commissioners of His Majesty's Treasury have, upon the report of the said George Lord Auckland, considered it expedient to reimburse the capital expended by the said Gilbert Farquhar Græme Mathison in and about such works and utensils, and the same have now become the property of Government: And whereas in consequence of the introduction of such new process and improvement, and in order to secure to Government certain advantages in using the same upon the account of the Bank of England or private individuals, as well as upon Government account, the said Lord Auckland, with the approbation of the Lords Commissioners of His Majesty's Treasury, hath contracted and agreed with the said Gilbert Farquhar Græme Mathison for refining all gold and silver bullion, either when the same shall be received into his refinery from the Bank of England or from private individuals upon his own responsibility, or be purchased and received upon his own account, and for refining all such gold and silver as shall be necessary for carrying on the coinage of His Majesty's Mint upon the terms and conditions hereinafter mentioned. Now these presents witness, and the said George Lord Auckland for himself and for the Master and Worker of His Majesty's Mint for the time being, doth hereby covenant, promise and agree to and with the said Gilbert Farquhar Græme Mathison, his executors and administrators, and the said Gilbert Farquhar Græme Mathison for himself, his executors and administrators, doth hereby covenant, promise and agree to and with the said George Lord Auckland, and the Master and Worker of His Majesty's Mint for the time being, in manner following; (that is to say),

That the said Gilbert Farquhar Græme Mathison shall be at liberty to receive gold or silver bullion into his custody in the Mint from the Bank of England, or private individuals, upon his own account and responsibility, in the same manner as he is now allowed to receive foreign coin or bullion of uncertain value which is brought to the Mint for coinage, and which requires to be melted into bars or ingots in order that the fineness may be assayed and its value ascertained before it can be delivered into the custody of the Master and officers of the Mint for coinage.

That upon the receipt of all such gold or silver bullion into his custody belonging to the Bank of England or other private individuals, he shall give to the parties delivering the same a receipt, signed by himself, or by some person duly authorized by him, in the form hereunto annexed.

That in respect of all such gold or silver bullion brought to him to be refined on account of the Bank of England or private individuals, or where the same has been purchased by him on his own account, he shall pay to the said George Lord Auckland, or the Master of the Mint for the time being, a fixed rate of 3*d.* per pound troy on all fine gold delivered out of the refinery, and one-eighth of 1*d.* per pound on all fine silver delivered out of the refinery.

That upon every delivery of fine gold or silver bullion out of the refinery, the receipt of the party to whom the same shall be delivered shall be deposited with the deputy-master or other principal officer of the Mint, and the before-mentioned payments, computed upon the gross weight of the refined gold or silver bullion corresponding with such receipts, shall be made to the Master of the Mint on the 1st day of January in every year, or oftener if required; such payments to commence from the day when the new refining works and utensils become public property.

That in all cases where the gold or silver bullion received for carrying on the coinage of His Majesty's Mint shall not be of the legal or standard fineness, and the alloy shall be wholly of copper, or containing such minute portions of the precious metals as not to afford any advantage by the new process of refining, the said Gilbert Farquhar Græme Mathison shall be paid and allowed such price or sum as shall be one-third less than the trade price for

for refining the same, instead of only one-sixth less, as stipulated by the said hereinbefore in part recited agreement between the said Gilbert Farquhar Græme Mathison and the said John Charles Herries; provided always, that the said Gilbert Farquhar Græme Mathison shall in no case be paid or allowed less than 6¾*d.* per ounce for refining gold, and 1*d.* per ounce for refining silver.

That in respect of all gold or silver bullion which shall be purchased by Government for coinage, or for melting into bars, which bullion respectively as to gold shall contain silver, and as to silver, gold, and whenever any monies of gold or silver of the circulating coin shall be called in for recoinage or melting down, or in any service of Government which, under the like circumstances, shall admit of the advantageous application of the new process of refining, the price or sum to be allowed and paid to the said Gilbert Farquhar Græme Mathison (as it must depend upon the relative proportions which the gold and silver to refine may bear to each other) shall be regulated at the time between the said Gilbert Farquhar Græme Mathison and the Master of the Mint for the time being, reference being had to the assays which shall be made of the said bullion or coin, and to the facility which may be afforded by Government in providing the requisite supplies of silver necessary for carrying on the refining process.

That the said Gilbert Farquhar Græme Mathison shall bear and sustain all manner of waste, charges and loss in and about the operations by the new process of refining, in the same manner as he has covenanted and agreed to do by the hereinbefore in part recited agreement as to the melting and refining therein mentioned; and that he shall furnish, at his own cost, all requisite labour and materials, and keep in repair all the new furnaces, apparatus and utensils now become the property of Government, in the same manner and to the same extent as he has covenanted and agreed to do by the hereinbefore in part recited agreement, as to all matters and things therein mentioned, specified and intended, the Master of the Mint for the time being providing and keeping in repair only the requisite buildings at the public expense.

That the said Gilbert Farquhar Græme Mathison shall save harmless and indemnified the said George Lord Auckland and the Master and Worker of His Majesty's Mint for the time being, and the public, from all loss, damage and expense in and about the said new process of refining in His Majesty's said Mint, except in respect to such repairs, matters and things as are to be provided and found at the public expense as aforesaid.

That it shall be lawful for the said George Lord Auckland, or the Master and Worker of His Majesty's Mint for the time being, and the said Gilbert Farquhar Græme Mathison, to determine this present agreement after three months' notice given in writing by either party to the other for that purpose.

That the said hereinbefore in part recited agreement between the said John Charles Herries and the said Gilbert Farquhar Græme Mathison, of the 18th day of April 1828, except in so far as the terms and conditions therein mentioned are altered or varied by this present agreement, shall be and subsist in full force, virtue and effect, and all the clauses, stipulations and provisions therein contained, so far as may be necessary or shall be required, and so far as the same are not altered or varied, shall extend to this agreement in the same manner as if the same were here again repeated and set forth. In witness whereof the said parties have hereunto subscribed their names and affixed their seals, the day and year first above written.

Auckland. (L.S.)
G. F. Mathison. (L. S.)

Signed, sealed and delivered, being first duly stamped, in the presence of
Jos. Blunt, 36, Lincoln's Inn Fields, Solr Mint.

The Form of Receipt referred to in the foregoing Agreement.

Royal Mint, 18

Received into my custody, and upon my own private responsibility, bags or bars bullion, weighing gross pounds troy, from to be refined.

Entered at the Audit Office, Somerset-place, 6th August 1833.

T. Downes.

(A.)
Royal Mint.

Appendix, No. 2.

Appendix, No. 2.
Deputy Master's Report.

THE DEPUTY MASTER'S REPORT.

REPORT to the Master of the Mint in respect to the proposed Inquiry into the Establishment of the Mint, as to the mode of keeping the Cash Accounts, and the necessity of Alterations in the Acts of Parliament and present Indenture.

Sir, Mint Office, 17 November 1836.

In pursuance of the directions in your letter of the 22d August, relating to the proposed inquiry into the Establishment of the Mint, and suggesting, with a view of simplifying the Cash Account of the Master of the Mint, that the whole expense of the Mint, as far as is possible, should be annually voted by Parliament, upon estimate; and the profits arising upon the silver coinage paid into the Exchequer, without any deduction; and also, that the mode in which the Master now takes credit in his account for the rates allowed by the Indenture for coining the different sorts of monies (out of which he pays the charges of the moneyers and melter) should be altered; in doing which it is stated that certain Acts of Parliament, or other authorities, must be repealed or amended;

The Establishment.

I beg leave to report that, under the provisions of the Acts 1 and 9 Geo. 3, the sum of 13,800 *l.* is permanently granted and issued annually for the expense of the Mint. This sum, which appears to have been originally intended to pay the entire ordinary expenses of the establishment, as well as the charges of coinage, has for many years been applied to the salaries, allowances and incidental expenses, by which it is almost wholly absorbed, the remainder (if any) being carried in aid of the charges of coinage, or merged in the general expenses; any exceeding thereon being voted by Parliament for the extraordinary expenses of the coinage.

As it is considered that it would be more proper, and in conformity with the usage of other public offices, that the whole expenses of the Mint should be annually brought before Parliament, it seems desirable that specific sums for the several branches of the service, including the establishment, coinage, incidents, prosecutions, &c., should be respectively prepared on estimate, and voted; and as the Act 9 Geo. 3. is found to be insufficient for defraying the expenses of the Mint without an annual grant from Parliament, it is submitted that this Act may be repealed.

It is also proposed to repeal the Act 39 Geo. 3, and the Act 1 & 2 Will. 4, which provides for the payment of the Master of the Mint's salary out of the rates allowed by the indenture for carrying on the coinage; and that the salary of the Master shall be provided for in the vote for the expenses of the establishment.

The present establishment will then include, viz.—

The salaries to the officers as now allowed by the Indenture.

The salary to the Master, by Act of Parliament.

Gratuities to officers for length of service.

Mr. Tickell's salary, during existing interest, allowed by Act of Parliament.*

Weekly wages and allowances as paid to porters, messengers, watchmen, workmen in die, assay, engravers, and machinery department, packery, &c.

Rates and taxes charged on the buildings of the Mint.

The Superannuations.

The grant for the superannuation allowances at the Mint is included in the general vote by Parliament for superannuation and retired allowances, and is issued annually to the Master of the Mint, by the Paymaster of Civil Services.

The Coinage.

In respect to the coinage, it is submitted that the rates allowed by the Indenture now in force, between The King and the Master of the Mint, for carrying on the coinage, for the whole of which the Master takes credit in the discharge side of his account, shall be altered; and instead of paying the fees now applied under the Act 39 Geo. 3. to the Master's salary, and the surplus paid into the Exchequer, such fees shall cease to be received out of the rates; and also, instead of transferring any surplus, as is now done, to the charge side, after paying

* This is a patent office; how is it to be provided for?

paying the above fees, as directed, and the charges of the moneyers and melter, there shall only be paid the actual charges of the moneyers and melter for the coinage, according to their agreements.

Note.—By the indenture, certain rates per lb. weight are allowed to the Master for the coinage of the several species of gold and silver monies, a different allowance being made for each denomination, according to the numerary, or number of pieces cut out of the pound weight.

	s.	d.	
On the sovereigns the rate is - - - - - - - -	6	8¼	per lb.
Out of which the Master pays the moneyers - - - - -	3	6	–
The melter - - - - - - - - - -	–	10	–
* The Master's fees - - - - - - - - -	1	10	–
And the remain or surplus is carried to the charge side - -	–	6¼	–
	6	8¼	

If this proposition is carried into effect, it will be necessary that a new indenture should be made, or the present indenture altered, with respect to the rates allowed for the coinage. It seems, however, very desirable that the whole of the several provisions contained in this instrument, upon which the business of the mint originates and moves, should undergo an entire revision.

At present, the expenses of the gold coinage only are voted. The silver and the copper are paid out of the profits of coinage. It is intended in future that estimates for each of these coinages, as well as the gold, shall be prepared. The estimate is generally made with reference to the preceding year, or upon an average. It is impossible to state what amount of coinage may be required, it depending upon circumstances totally unconnected with or under the control of the Mint.†

Contingent or Incidental Expenses.

In respect to the contingent expenses, it is proposed that estimates shall be made out of all the materials and necessaries requisite for the operations in the several offices of the mint office, assay offices, die department and others, (excepting the moneyer's and melter's departments, which are carried on by contract,) and the amount annually voted by Parliament.

Prosecutions.

Formerly the sum of 600 *l.* per annum was allowed, under the Act 15 & 16 Geo. 2, for prosecutions of offenders against the coin laws; any exceeding above this sum being voted by Parliament as extraordinary expense of the prosecutions. By the late alteration in the laws in this respect, the above allowance ceased, and the whole expenses of the prosecutions are now annually voted by Parliament.

The solicitor is paid a fixed salary. For carrying on the services, imprests are made to him from time to time, for which he is debited in the Mint account, and credited by the bills of expenses, which are delivered in as soon as the vouchers can be collected.

The mode of making imprests to the solicitor on account has been objected to by the Audit Office, as these imprests are not substantiated by any voucher when the Master's account is sent in to the Audit Office, and generally the account is audited before they can be procured. The agreement, however, with the solicitor, being, that he shall always have money in hand to carry on the prosecutions, and there being difficulty in obtaining the accounts and vouchers of the country agents, witnesses, &c., until some time has elapsed, it does not occur how any alteration can be made in the present system, unless a different engagement be entered into with the solicitor.

Repairs of Buildings and Dwelling-houses.

In respect to the repairs of the buildings of the Mint, the exterior of the dwelling-houses is done, under estimates, by the Board of Works, as well as the whole inside and outside of the offices and workshops. The interior of the houses, in the painting, papering, &c., is defrayed out of the funds in the hands of the Master of the Mint arising from the grants for the established service, coinage, or profits on coinage, conformably to the ancient usage of the office.

It

* The fees to the Master are accounted for under the Act 39 Geo. 3, being first applied to the fixed salary of the Master, and the surplus paid into the Exchequer.

Supposing the fees in the year to amount to - - - - -			£. 4,000 – –
Deduct { The Master's salary - - - - -	£. 2,000	– –	
{ And the taxes charged thereon - - -	222	15 8	2,222 15 8
And the surplus is paid into the Exchequer - - - - -			£. 1,777 4 4

If the fees are insufficient to pay the salary, the deficiency is issued by Treasury, out of the Consolidated Fund.

† The vote for the present year for the gold coinage is 8,600 *l.* This sum has already been exhausted. When this is the case, the charges of coinage are paid out of any other funds in the Master's hands, and the deficiency added to the estimate in the next year.

(A.)
Royal Mint.

Appendix, No. 2.
Deputy Master's Report.

It is proposed that, instead of employing these funds, the expense shall be voted in the estimates for public works by the Board of Works.

The expense for the repairs of die machinery, or other necessaries not connected with the buildings, will be included in the contingents of the Mint.

Miscellaneous Receipts.

The miscellaneous receipts which arise from rates received for the use of the gas-lights by the officers, sales of gas coke, sales of coronation medals, rates on the new refinery, monies released from the pix after the public trial at Westminster, old stores, or any other source, shall be placed to the charge side of the Master's account.

Purchases of Bullion, Dollars, and Coin.

In respect to the purchases of silver bullion for coinage, dollars or coin, for the Commissariat Department, copper for coinage, &c., it is proposed that all the monies received from the Paymaster of the Forces on the commissariat account, advances from the Australia Bank, or any other company or parties, and likewise all the monies received on the sales of silver or copper coins, to the public or Bank of England, &c., shall be brought forward on the charge side of the Master's account; and all the monies paid into the Bank bullion offices, bullion brokers, or other persons, for the purchase of bullion or dollars or coin, shall be placed on the discharge side of the Master's account, the balance on the receipts and purchases being shown in the purchase-book or general ledger.

Profit on Silver and Copper Coinage.

With respect to the profit on silver and copper coinages, it is proposed that, in every purchase of silver, the difference between the market price of the silver and its produce in standard bullion or coin at 66 *s.* per lb. (constituting the seignorage or profit upon the coinage) shall be carried to account, with a view to be paid into the Exchequer without any deduction.* It is obvious, however, that unless a sum or capital be provided for the purchase of silver bullion for coinage, the Mint will have no fund for buying silver, unless it retains the profits, instead of paying them immediately as they arise into the Exchequer.

The course now pursued is as follows: the cash received on the sales of the coin to the Bank of England or others is applied to the purchase of bullion. When the bullion is coined, the coin is again sold, and the proceeds in cash re-applied to purchases. It is only, therefore, when the coinage ceases, and the whole of the coin has been turned into cash, that the full profits can be paid into the Exchequer. If only occasional small coinages are wanted, sums on account may be paid in at discretion, or according to the directions of the Treasury, on the account being rendered.

Cash-book, and Double Entry adopted in keeping the Mint Cash Account.

In consequence of the communication which took place with Mr. Brooksbank of the Treasury, in respect to the mode of keeping the Mint cash accounts, a cash-book, according to the form prescribed in the Report of the Commissioners appointed in 1829 for considering the mode of keeping the Public Accounts, has been procured, as well as the ledger; and the system of double entry therein recommended is now pursued at the Mint, so far as relates to the cash receipts and payments.

Subsidiary Accounts for Profits and Assets Statements.

But as the bullion and coin from which the account of the profit is derived cannot be mixed up with the Master's cash account, and must be a distinct proceeding, a subsidiary account or statement thereof will be prepared at the end of each quarter, or whenever it may be practicable to draw up such account; and also it is proposed to make up an account of the assets, consisting of bullion, coin, cash, monies due, forming a general stock account remaining at the end of each quarter (if the account can then be made out) in charge of the Master of the Mint, and the liabilities thereon, exhibiting the balance of cash applicable to the service of the establishment.†

Forms for the Audit Accounts.

Forms for the mode of making up the audit account of the Master, and also for the profits and assets account, will be prepared for approval, or for any alterations which may be suggested in the course of the inquiry.

I have, &c.
James W. Morrison.

---

* It should be explained, that before the profit can be ascertained, the purchase assay, and afterwards the mint assay, must be made; as well as the computations for ascertaining the standard amount. As these processes require time, advances are always made on the purchase of bullion to the extent of three-fourths or upwards of the estimated value. The bullion must then be coined, and the coin sold or turned into cash. The profit, if required, may then be paid into the Exchequer.

† The Treasury must advance the necessary money to the Mint.

227

(A.)
ROYAL MINT.

Appendix, No. 3.

THE COMPTROLLER'S REPORT.

Appendix, No. 3.
Comptroller's Report.

Sir, Mint Office, November 1836.

IN obedience to your request, conveyed to us in a letter from the deputy-master, we beg leave to report upon several matters connected with the Mint establishment, which we, as the principal check officers, are humbly of opinion require to be noticed in the revision which is about to take place in the department.

The Accounts, and mode of conducting the Business in the Office.

Of the accounts, we have to observe, that daily journals are kept of all transactions in gold, silver and copper, from which each transaction is posted to its proper head in the ledger; and we are of opinion, that the present mode of keeping the office ledgers is the simplest and best form for the nature of the business of the department, and that any departure therefrom, by adopting a system of double-entry, as practised recently in the Master's cash-account, would only embarrass the business of the office, without affording any better check than that which now exists.

We should observe, that the business of the office has altered very materially in the last year or two; the transactions are more numerous, and the accounts are required more in detail than formerly, since the management of the supply of silver coin and dollars for the service of the commissariat, and the issue of silver coin to the public, have been imposed upon the Mint.

No system has yet been arranged to work with the new order of things, but, if we are to keep a thorough set of check accounts, a regular routine for the papers and documents relating to the various services must be established.

Of the present mode of conducting the business of the office, we have some suggestions to offer to your notice.

Considerable inconvenience is felt at present in consequence of our weighing in the ingots of gold and silver bullion immediately on their being received into the Mint, instead of having a second weighing, as was the case with the silver, before we adopted the present plan, to save labour and exertion to the weigher and teller, who is now getting old and infirm.

That the weight of each ingot ought to be checked as soon as it is received into the Mint, admits not of a doubt; but we are of opinion, that the ingots may safely be received and locked up in the stronghold for that purpose, under the keys held by the deputy-master, comptroller, and King's clerk, immediately after the pieces for assay, by the master's assayer, have been cut off. The ingots will then remain locked up, until the master's assayer has made his report of them, when they may be weighed and rated at the same time, which will be much more convenient to those whose duty it is to attend at these operations.

The only difficulty which obtrudes itself upon this arrangement is the chance of the weights of any of the ingots differing materially from that reported by the importers or seller of the bullion, when it would appear strange to challenge and dispute the weight of an ingot which may have been deposited in the Mint a week previous. It is to be presumed that the integrity of the parties in whose charge and under whose inspection the bullion would be locked up would be perfectly satisfactory to the Bank of England and other importers of bullion, that any deficiency, should any such occur, could not have been caused during the time it has been in the Mint.

We beg to call your attention to the nature of the various duties we have to perform in the office, in which we are ordinarily assisted by the clerks in the Telling Office. It happens frequently, when a coinage of both gold and silver is going on, that we cannot avail ourselves of this assistance from the Telling Office; and we submit to you the propriety of a clerk being devoted entirely to our service, more particularly in the case of the comptroller, who is constantly obliged to abandon many of his other duties in the department, while he is engaged in executing the clerical part of his duty in the office.

The Alloy added to Scissel Pots.

We beg to report to you upon the practice of adding alloy to the pots of scissel, either of gold or silver; for, in speaking of "scissel pots," we refer indifferently to either metal, both being in the same case.

It is not necessary for us to recapitulate in this Report what we have already advanced in our letter to the Master and board, of the 5th May 1835, to which we take leave to refer you. We have, however, a few observations to submit for your consideration upon the melter's letter of the 2d April 1835, and the joint report of the deputy-master and King's assayer in the same month.

Paper No. 6, annexed. No. 5.

Mr. Mathison adverts to the board's minute of the 11th February 1820, and considers it "as binding upon the comptroller as upon me or any other officer," until it had been superseded by similar authority, which really was the case in 1830; the board's minute of the 5th

No. 7. No. 3.

(A.)
ROYAL MINT.

Appendix, No. 3.
Comptroller's Report.

Paper No. 4, annexed.

May, of that year, virtually rescinding all previous minutes upon this subject; putting the business of the melting department upon an entire new footing.

It is to be regretted that there is some little ambiguity in the language of this minute, but it is quite clear that by it the melter is no longer to receive the benefit of the excess of alloy in stopped pots, by their being mixed with scissel; neither can he receive the benefit by the alloy being added directly to the scissel pots, because, it proceeds to state, it is contrary to the provision made in the Mint indenture on this head.

We have thought it necessary to enter at large upon this point in dispute, inasmuch as it was entirely upon the reading of this minute that we founded our query to the master and board.

We must advert to another portion of Mr. Mathison's letter, wherein he states that, "under the existing law, the melter is the only person who can lose by his agreement." It seems to have escaped his recollection at the time he wrote this, that he holds only one half of the contract for the coinage, the moneyers, who have the other half, being bound by similar conditions to those in the melter's contract; we never hear of any claim upon the Government to make good the losses which they suffer equally with the melter.

In a paper upon the article "Coinage" in the Edinburgh Encyclopædia, which was drawn up by Mr. Mushet, the late melter, he adverts to the refinement which takes place in melting; and in speaking of some experiments made with a reverberatory furnace, after the model of those used in the Lisle Mint, he says: "The imperfection here arose from the great refinement of the silver in melting by the oxydation of the alloy, and which the *usage* of the British Mint does not allow the melter to supply as in the French mints."

No. 1.
No. 2.

We are also governed in our opinion by a minute of Lord Maryborough in the year 1818, and another by the board in 1820; by both of which minutes, copper alloy, "over and above what is set out in the pot book," is authorized to be added at the first melting of certain ingot pots, which differ not an iota from scissel, when their position is carefully considered.

By both of these minutes you will observe it to be expressly stated that the increase in the standard, arising from the extra copper added, is to be brought to the public account.

After what we have advanced against the practice of copper alloy being added to scissel pots, directly to the melter's advantage, you will naturally expect, sir, that we should have some suggestions to offer upon the mode of keeping up the standard of the coin in future.

It is necessary for us, in order that you should possess a thorough knowledge of the subject, to review, in the first place, the mode of conducting the process of coinage, as far as the melting department; all that is necessary for our present purpose.

The bullion is received into the Mint, and its value determined upon the report of an officer designated the master's assayer. This officer not only determines the value of the bullion by his assay, but he also exercises his judgment in classing and combining the ingots for melting, in order to avail himself of all fractions which may occur upon each ingot, in consequence of the assay master being unable to report to zero, or standard, nearer than $7\frac{1}{2}$ troy grains in gold, and $\frac{1}{2}$ dwt. in silver; no computation ever being made to an odd grain, either in the Mint or by bullion merchants. A report nearer to the truth than $\frac{1}{8}$ of a carat grain in gold, and $\frac{1}{2}$ dwt. in silver, would be useless, since it would render the operation of computing the standard of any one parcel of bullion too tedious for practice, none of the tables being calculated so closely. The master's assayer does, you perceive, sir, do that in effect by his classification of the ingots, which might be done by a more delicate computation. He thus produces a metal as nigh to the standard as human fallibility will admit of.

We are now brought to the second stage of the work. The excess of fineness or worseness is computed from the master's assayer's report, by the proper officers specified in the indenture. The pots are then entered in the pot-book by the melter, who has been furnished by the master's assayer with a list of the ingots to be potted, classed by him according to the fractions upon each ingot. The alloy is computed and certified to by the comptroller and King's clerk, whose peculiar province you will perceive it is to watch over this very important matter, so that no more alloy can be introduced into a pot, to the benefit of the melter, than is just sufficient to bring the metal to the proper standard.

The third and last stage is the examination of the pots by assay, in the King's Assayer's Office; who, finding the metal of the proper standard, reports the same to the comptroller and King's clerk, when the pots are passed into work. We should observe, that the Mint indenture imposes a duty upon certain officers, the deputy-master, the comptroller, and King's assayer, that of watching over the melting of the bullion; but as it is quite impossible that they can constantly be standing sentry over the pots, they are represented by an officer, styled the surveyor of the meltings, who does this duty under their immediate supervision.

We have endeavoured to render the process of coinage, up to the point of melting, in terms as familiar as possible, in order that our suggestions may be better understood by others, strangers to the operation.

We beg leave to submit the following plan for adoption in the future conduct of the business in the melting department:

1st Regulation.—That whenever a pot of metal, produced from ingots, is found to deviate too largely from standard, so that, in the judgment of the King's assayer, it should be made the subject of a fresh mixture, or, as we term it, be a "stopped pot," then that it should pass through the office again, as a melter's supply, his accounts being credited with the gross weight of the pot; excepting such an extreme case as that, in which both the melter and the surveyor

surveyor of the meltings have by their negligence allowed more alloy to go into the pot than is set out in the pot book, when the standard weight must be entered to the melter's credit.*

2d Regulation.—That the scissel pots, stopped by the King's assayer for being too fine, shall be remelted at the melter's expense, with such addition of alloy as may appear to be necessary by the King's assayer's report. If the scissel pots should be stopped for being worse than standard, they must necessarily be passed through the office as a supply from the melter, or kept until a pot with an equal quantity of fineness (always excepting an extreme case, as in the 1st Regulation) shall occur, but still be remelted at the melter's cost.

3d Regulation.—That whenever by the run of the work it may appear to the King's assayer that the metal may be made nigher to the standard, by the addition of a small quantity of alloy at the first melting of the scissel, then that an entry shall be made in the pot book by the Comptroller and King's clerk, founded upon the King's assayer's report, authorizing the surveyor of meltings to add such alloy; and who shall enter each day's work of scissel, melted under such circumstances, in the pot book, in order that it may be entered in the office journals, to be posted from thence to the proper ledger account against the melter, to be, eventually, placed to the debit of the Master, in his public account.

Having thus stated our views upon this subject, we are compelled yet to offer some further observations upon these proposed regulations. In reference to the 1st Regulation, we are of opinion, that if the purchases of gold and silver bullion are always made, as hitherto, upon the assays made by the King's assayer only, and not upon the assay of any private assayer, and that the King's assayer shall be required to report daily to the deputy-master and comptroller, in writing, the average variation from standard, then very few ingot pots will be stopped; because the master's assayer will always be regularly informed of the kind of work he is producing, and will exercise his judgment in classing the ingots, as we have already explained. Why an assay made by the King's assayer is to be preferred to that of any other person is obvious, after what we have said upon the subject of the fractions, with which the master's assayer has to deal with in classing the ingots.

Upon the 2d Regulation we have only to observe, that the metal of which the scissel is composed, having already been subject to the ordeal, and approved of by the king's assayer, any subsequent fault in it must arise from some negligence on the part of the melter, or his men, in the melting, and is, therefore, one of the risks contemplated in his agreement.

As to the 3d Regulation which we propose, we beg to call your attention to the fact, that the scissel must be melted by the melter, whether the alloy is added or not; and that it is subject only to the usual waste in melting, which he is liable to under his agreement. He is not, therefore, we are decidedly of opinion, entitled to receive this benefit; the waste in melting being considered in his price for melting, in his contract with the master; it ought, therefore, to be brought to the public account.

We consider scissel pots to be precisely on the same footing as the ingot pots, the subject of the minutes of the 7th Feb. 1818, and the 2d Aug. 1820.

We shall now dismiss this subject, having, we hope, taken an unprejudiced, candid, and liberal view of it.

Water Silver.

We are of opinion, that the supply of fine silver to the assay-master requires some regulation. It is a tool to the assayer for the examination of gold; and it is, to a certain extent, indestructible.

It has hitherto been enjoyed by the assay master as a perquisite, under a provision in the margin of an account of the salaries paid to the Mint establishment, when it was revised in 1815. It is therein stated to amount to about 25 *l.* per annum; but circumstances have so changed since then, the operations of the Mint have been conducted upon such a large scale, that this emolument, which, when allowed in 1815, amounted to about 25 *l.* per annum, has reached, in 1821, to about 700 *l.*, and has been, during the present year, about 150 *l.*

With the knowledge which we possess of the silver being recovered from the acid in which it is suspended, at a comparatively trifling cost, compared with the value of the commodity itself, and having the amount originally allowed in view, we do not consider ourselves justified in continuing to pass bills for this article, without submitting the matter to higher authority.

We found the late King's assayer, and the present master's assayer, in the enjoyment of this emolument; and so long as no change took place in their departments—as long as they held their respective offices—we considered them to have a vested interest in it, and did not deem it a fit time to submit the matter to the Master of the Mint. When, however, the present King's assayer was appointed to the office, we intimated to him our intention of submitting the question to the master for consideration. With the knowledge that an inquiry into the establishment would probably take place, we have withheld making any communication to you until now, considering this to be the proper time for the subject to be discussed.

The Government Artificers, and Charge of keeping the Machinery in order.

We have found ourselves as check officers, in conjunction with our colleagues, placed in considerable doubt and difficulty in determining an equitable adjustment with the company of

* The melter to be paid by the public the expense of the first melting.

(A.)
ROYAL MINT.

Appendix, No. 3.
Comptroller's Report.

of moneyers, according to the conditions in their agreement, founded upon Lord Maryborough's Report to the Committee of Privy Council in 1815.

If some more definite language than that which is used in the Report, namely, "When the Mint is not at work," could be used, it would save us much trouble and anxiety; for it is a most difficult matter to determine when this really happens in the present day. Probably a new arrangement, founded upon the working of the past, might be deemed to be desirable, and a certain expense be thrown, as an annual charge, upon the public; the company of moneyers being left to deal with the remainder.

It should be clearly laid down what should be deemed a repair to the machinery, and what should be considered as new, and, as such, to be paid for by the public. The company of moneyers are bound to keep the machinery in order "during the time the Mint is at work;" and when they give up the charge of the machinery, it is to be delivered over to the Master of the Mint "in good repair, reasonable use and wear thereof only excepted;" this being a case which seldom or ever happens, it is desirable, as we have stated above, that the distinction between a repair and the supplying a new machine should be clearly laid down.

The Die Department.

One of us, the Comptroller, being specially called upon to examine and inspect the worn-out dies, with the accounts kept by the clerk of the irons, we beg to call your attention to the mode of destroying the old dies, by defacing them, so as to render them unfit for the purpose of coinage. It does appear to him to be very desirable, that some mode should be adopted for defacing the dies, immediately that they are rejected as unfit for further service, in the press-room; and in which opinion, he believes he is correct in saying, his colleagues in this duty, the deputy-master and clerk of the irons, go with him.

A machine might be constructed, at a small expense, which would make such a mark on the face of the die as to render it utterly useless to any counterfeiter in case of pillage, as well as to the Mint, which is not the case at present, until they are finally destroyed on the annual inspection of the accounts kept in the office of the clerk of the irons, by the deputy-master and comptroller.

It would be very desirable if a better system of polishing the dies for the press, after they are hardened, could be adopted.

The Indenture.

In compliance with your request to be informed of our opinion as to what portion of the present Mint indenture may be made matter of regulation, or omitted altogether, should it be deemed to be advisable to have a new one executed, we beg to report:

That in fixing the prices to be allowed to the Master for the coinage of the monies, the sum paid to the contractors only should be entered, that portion of the charge forming the fee fund, out of which the master's salary is paid, being rejected altogether. The Act of Parliament regulating the master's salary must be repealed, and a fresh provision made for the payment of it from some other source.

That the clause requiring the comptroller to exhibit an annual account, called "The Controlment Roll," upon oath, before one of the Barons of Exchequer, may be omitted.

In former times, when no certified accounts were rendered to the Audit Office, such an account was not only useful, but proper; now that duly-certified accounts of the gold and silver bullion, and monies, are rendered to the Audit Office, we are of opinion, that the form of delivering the controlment roll, upon oath, may be safely dispensed with; the account, which is useful, being still kept by the comptroller as heretofore.

That the duties of the various officers may be made matter of regulation, with the exception of those referring to the preservation of the standard weight and fineness of the coin, which we conceive are of sufficient importance to be made the subject of so grave a compact as an indenture.

That with the exception of the above-mentioned alteration, we do not consider it would be prudent to make any other amendment in a new indenture.

Official Duties.

In referring to the duties which we are, individually, called on to perform, we are informed by the deputy-master, that you are in possession of the returns made by the various officers of the establishment, during the mastership of Lord Auckland, to enable his lordship to draw up a fresh code of instructions for the department; we, therefore, beg leave to refer you to those documents on this subject.

In drawing up instructions for our guidance, we cannot too strongly urge upon your attention the necessity of their being so framed that as little as possible may be left to our discretion.

We have the honour to be, Sir,

Your most obedient servants,

W. H. Barton, Comptroller.
Thos. P. Croasdaile, King's Clerk.

The Right hon.
Henry Labouchere, M. P.,
Master of the Mint.

No. 1.—Minute.

Mint Office, 7 February 1818.

The Master of the Mint is pleased to direct, that in all cases where it shall appear necessary to the King's assayer that alloy should be added to the gold ingots set out in the pot book to be melted, that an account of copper added to each pot shall be kept by the surveyor of the meltings, and a return regularly made to the board of Mint officers, in order that the melter may be charged with the amount of the standard value of such alloy, and the same be carried to an account in aid of the expenses incurred by the public in the gold refining.

(signed) *W. W. P.*

No. 2.—Board Minute.

Mint Office, 2 August 1820.

In conformity with the Minute of the Master of the Mint, dated 7th February 1818, the melter is hereby authorized to add to the pots, consisting of gold ingots, from French coin, three grains of alloy to each pound weight over and above what may be set out in the pot book; and the surveyor of meltings is to take an account of the alloy so added, and make a return to the office monthly, in order that the melter may be charged with the amount of the standard value thereof, and the same carried to account in aid of the expenses incurred by the public for the refining, similar to the preceding in this respect in the year 1818.

(signed) *J. W. Morrison.*
J. Barton.
Rt. Bingley.

No. 3.—Board Minute.

Mint Office, 11 February 1820.

Read a letter from the principal check officers, dated 9th February 1820, enclosing an account from the surveyor of meltings relating to the alloy, which, under the direction of the King's assayer, has been added in the melting-house to the dollars, French crowns, and silver ingots, melted from 2d December 1819 to the 3d February 1820.

Ordered,

That in melting dollars, French crowns, or other coins of uncertain value in the assay, any additional alloy beyond that set out in the pot book, which may appear necessary for producing the standard, shall be regulated by the King's assayer, and allowed for the benefit of the melter; it being considered by the board that the melter is not bound by the indenture to engage in such service, and that he runs the risk in incurring loss or expense by having his pots stopped.

That in conformity with the directions of the indenture, no additional alloy shall be allowed or appropriated to the benefit of the melter, in melting silver ingots assayed by the master's assayer, beyond that which is set out for the ingot pots in the pot book; but for the purpose of meeting the refinement, which takes place by repeated meltings, such addition of alloy shall be allowed in the scissel pots as in the discretion of the King's assayer is proper and necessary to preserve the standard fineness of the metal.

That instructions be given to the master's assayer for giving the full value of the ingots to the importer, and that he shall communicate with the King's assayer as to the result of his reports; and if it shall appear by the run of the work that the ingots have not been reported to their full value, and that it is necessary (as appears to have been the practice in some instances in the melting-house) to add, under the direction of the King's assayer, more copper to the ingot pots than is set out in the pot book, the King's assayer shall adjudge the proportion to be so added, and an account shall be kept thereof by the surveyor of meltings, and returned monthly to the office, in order that the amount may be carried to the credit account of the importer, and be charged against the melter in making up the monthly balances in the ledger.

As no distinct order on this subject existed previous to the present Minute, the Board are of opinion that it should not be applied retrospectively to the case stated in the report of the surveyor of meltings; but in all future transactions of this description the surveyor is to take care that the order of the Minute be duly complied with.

Copies of this Minute are to be sent to the master's assayer, the surveyor of the meltings, and the melter.

(signed) *J. W. Morrison.*
John Barton.
Rt. Bingley.
T. P. Croasdaile.

(A.)
Royal Mint.

Appendix, No. 3. Comptroller's Report.

No. 4.—Board Minute.

Mint Office, 5 May 1830.

It appearing to the Board that the mode of passing into work such pots as may have been stopped in the melting-house by the King's assay-master, in consequence of their being found upon the assay too coarse or too fine, is objectionable, inasmuch as when the pots are worse than standard, they are ordered to be mixed and remelted in certain quantities with the scissel, whereby a portion of alloy, to the extent of the worseness contained in the stop pot, is, in effect, added to the scissel pots, contrary to the provisions of the indenture, which enjoins "that the comptroller and King's clerk shall examine the several books of meltings, declaring the quantity and fineness of all manner of gold and silver, and alloy, put into each of the melting pots, and that nothing but scissel should be put into the pots of scissel;"—

The Board think it proper to direct in future, that, upon every occasion when a pot shall be stopped by the King's assay-master, it shall be weighed into the office by the melter, as supply, upon the report of the master's assay-master, who is to be directed to assay the same from a portion of the bars taken from the pot, and delivered to him for that purpose; and the said supply being entered in the books of the office, according to the standard weight computed from the assay, the same shall be repotted with such proportion of alloy, or fine gold, or silver, as may be required by calculation for the standard, and shall be charged in the pot book in the usual manner to the melter.

The Board are further of opinion, that if it should appear that the stoppage has taken place through any accidental error, either in the combination of the ingots, or in the calculation of the alloy, or in weighing the copper for the same at the melting-house, by the surveyor of meltings, it will be proper and reasonable that the melter should be reimbursed for the expenses of remelting such pot, by allowing him to charge for the same at the rate of 8 *d.* per pound, the melter bearing all waste and charges as usual.

The charge for remelting to be placed among the contingent expenses in the master's annual account.

(signed) *James W. Morrison.*
John Barton.
T. P. Croasdaile.
W. T. Brande.

No. 5.

My Lord, 2 April 1835.

I beg to bring under your consideration a subject which, in his zeal for the interests of the public, has been mooted by the comptroller, Mr. Barton, but with which I would have gladly abstained from troubling your Lordship, had it been possible, without giving up a right to which I conceive myself entitled.

In order to render this necessity the more evident, I must inform your Lordship that, during the early part of the last quarter, the King's assay-master, Mr. Bingley, in pursuance of that discretionary power which he has always exercised over my department, ordered that a certain small quantity of alloy, viz. half a pennyweight in the pound, should be added to the silver scissel pots, by the surveyor of meltings, in order that the refinement, which might be expected from the process of melting, should not render the metal too fine for coinage.

The amount of alloy so added has amounted during the quarter to about 12 pounds standard, or 36 *l.* in value.

So soon as this order was given, the surveyor of meltings was desired by the comptroller to report the same to him, in order that he might enter the amount in the King's books to my debit as melter, and to your Lordship's credit, as Master of the Mint.

Against the adoption of this course, I at once verbally protested, upon the following grounds:

1. That from time immemorial the right of adding alloy to scissel pots has been exercised by the assay master for the good of the coinage, and by the melter as an indemnity for the great risks which he incurred from losses of all kinds, whether through accidental errors on the part of others, or from the uncertain nature of the metals themselves; sometimes pots being necessarily stopped from unknown causes, and yet remelted at his expense; sometimes the waste on melting becoming excessive, and yet always made good by him.

2. That the special cases pointed out in the Board Minute of 1829, do not, by any means, protect him against the casualties from causes unknown, here alluded to, inasmuch as, without reference to former years, he finds that, during the year 1834 alone, silver to the extent of 16,045 pounds' weight has been remelted by him at an expense of 133 *l.* sterling, the causes of which, whether from differences in the assay, or from the bad quality of the combined metals, could never be ascertained, but the effects of which he sustained to his own loss.

3. That upon succeeding to the office which I have the honour of holding, I naturally felt alarmed at the responsibility which I incurred in shielding the public from so many unknown risks, until I reflected that if I undertook the same risks as my predecessors, I should also enjoy the same advantages, and stand on the same footing as they did; with which understanding I bound myself by an agreement, before I could be made acquainted with its practical operation.

4. That in the beginning of 1829, during a small silver coinage, alloy to the extent of 16 pounds' weight was ordered by the King's assay-master.

That

That my right, as melter, to that alloy was then, upon my first enjoyment of it, never questioned; and when next the balances were made up, the usual certificate was granted by the comptroller, without any reference to the said amount, or claim thereto on the part of the Master.

Upon these and similar grounds, I defended the validity of the ancient practice; but it was argued on the other hand by Mr. Barton, that although the practice of the Mint undoubtedly had been such as I have stated, it was at variance with the strict letter of the Mint indenture, which orders that nothing shall be added which is not set out in the pot book.

He deemed it advisable, therefore, that the subject should be brought before the Mint Board for adjudication, in order that the practice might either be amended or confirmed in a regular and authoritative manner.

In the propriety of this opinion I had so far concurred as to have written a statement of my claim for your Lordship's consideration several weeks back, when, upon referring to the old Mint journals, Mr. Barton ascertained that a decision and Minute upon this very subject was regularly and authoritatively made by the Mint Board on the 11th February 1820.

It is therein stated, "That in conformity with the directions of the indenture, no additiona alloy shall be allowed or appropriated to the benefit of the melter, in melting silver ingots, assayed by the master's assayer, beyond that which is set out for the ingot pots in the pot book; but for the purpose of meeting the refinement which takes place by repeated meltings, such additional alloy shall be allowed in the scissel pots as in the discretion of the King's assayer is proper and necessary to preserve the standard fineness of the metal."

Upon reading this document I deemed it superfluous in me to call for the reconsideration of claims which had been already solemnly admitted by the Master and Board of Mint officers. I felt that I could rest, not only upon the equity of the case, and the established custom, as enjoyed by my predecessors and by myself in 1829, but upon the recorded judgment of the Master and Board of Mint officers in 1820: which judgment, until it had been superseded by similar authority, was as binding upon the comptroller, as upon me or any other officer.

I therefore withdrew my intended appeal to your Lordship's consideration, because I deemed the law, as well as the usage, to be in my own favour; and feeling assured that neither Mr. Morrison, nor Mr. Bingley, for whose opinion, as old experienced officers, I shall ever entertain unbounded deference, were desirous of any change, but, on the contrary, approved of the established system upon practical public grounds, I hoped that Mr. Barton would either leave the matter at rest, or bring it himself under your Lordship's consideration.

In that case, I should have refrained from troubling your Lordship, unless called upon to answer his arguments; but, instead of adopting this course, Mr. Barton has added the amount of the alloy upon his own authority, as comptroller, to your Lordship's credit, without any reference to the Mint Board; and unless it be made good when the balances are paid over to your Lordship's successor, he informs me that he shall withhold his signature from the account.

Under these circumstances, I am reluctantly obliged to intrude myself on your Lordship's time, at a moment when I am aware that your mind must be intent upon much higher considerations.

I claim no benefit which is not attended with corresponding risk of loss. I ask no favour which has not been enjoyed by others, (in times, too, when the profits of coinage were infinitely more considerable than they can ever be again). I defend no practice, however ancient, which is not based on equity; and I confidently rely upon your Lordship's judgment to protect me, in the execution of my contract, from any hard construction of it to my disadvantage, in the same manner that I am sure your Lordship would, if necessary, protect the public against any unjust or needless expense.

Under the existing law, the melter is the only person who can lose by his agreement. He loses by stopped pots of every kind; he loses by refinement of the metals; he loses by his own average waste.

It surely could never have been contemplated that the public should make a profit out of his losses, which they would do if the existing practice should be reversed.

With perfect reliance on your Lordship's liberality and justice, assisted as you will be by the opinions of other officers of the Board,

I have the honour to be,
Your Lordship's most faithful servant,
(signed) *G. F. Mathison.*

The Right honourable
Lord Ashburton, &c. &c. &c.

No. 6.

My Lord and Gentlemen, Mint Office, 5 May 1835.

We have to request your attention to the following query, arising out of a fresh combination of metal, which has been made upon the report of the King's assay-master:

Whether the melter ought not to be charged with the additional standard which has accrued, in consequence of one half penny-weight of alloy having been added to the silver scissel pots?

We beg leave at the same time to offer the following observations for your consideration, being the foundation on which our query is based:

(A.)
Royal Mint.

Appendix, No. 3.
Comptroller's Report.

The melter claims to be allowed the advantage arising from the addition of alloy to the pots in question, upon the ground of custom; we are humbly of opinion that the law of custom, as far as it relates to the practice in the melting department, has already been subject to two revisions; on the first occasion in the year 1820, (*see* Minute of the Board of the 11th February); and on the second in 1830, (*see* Minute of the Board of the 5th May).

By the last of these revisions, we conceive that the opinion of the Board is clearly recorded as to the alloy which may be added from time to time to the scissel pots, "whereby a portion of alloy, to the extent of the worseness contained in the stopped pot, is, in effect, added to the scissel pots, contrary to the provisions of the indenture, &c."

We can put no other construction upon this portion of the Minute, than that the Board disavow the custom of adding alloy to the scissel pots; in the next paragraph a provision is made to amend it, and the opinion of the Board is thus recorded, that, "it will be proper and reasonable that the melter should be reimbursed the expenses of remelting such pots."

Although the Minute does not convey in definite language what is to become of the increase of standard which may accrue by the addition of alloy to the scissel pots, or, more properly speaking, in making a fresh combination of the metal under the report of the King's assay-master, yet it must be inferred that any such advantage ought to be gained by the public, as a compensation for the melter's charge for melting stopped pots, an expense which was under the former custom borne by the melter.

There is, we conceive, a strict prohibition in the indenture to the melter being allowed a compensation for the refinement which takes place in melting: "That nothing but scissel of gold or silver respectively be put into the pots of scissel," and which is still further provided against in the agreement entered into between the Master and the melter, wherein the melter covenants to bear "all manner of waste and charges in and about the said meltings, &c." That the destruction of the alloy is what may be termed the natural waste in melting, will not, it is presumed, be denied; and if so, is not the melter compensated for this in his contract price, which is supposed to include all waste and charges?

We have the honour to remain, your obedient servants,

(signed) *W. H. Barton*, Comptroller.
Thomas P. Croasdaile, King's Clerk

The Right honourable
The Master and Board of Mint Officers.

No. 7.

Extracts from the Mint Indenture, relating to the Alloy to be added to the Pots for the Melting, &c.

"A book, to be called a pot book, shall be kept, declaring in the same the quantity and fineness of all manner of gold and silver, and alloy, put into each pot in the meltings, &c., and the said pot book shall be examined by the Comptroller and King's clerk, in order that the balances in the hands of the melter, &c., may be ascertained, and he may be charged therewith."

"And the surveyor of meltings is to take care that the ingots, with their proper alloy only, be put into the pots they are respectively set out for; and that nothing but scissel be put into the pots of scissel."

Extract from the Melter's Agreement.

"He is to receive all such gold and silver, and alloy, which shall be delivered to him, by weight, out of the Office of Receipt, under the check, and according to the report of the comptroller and King's clerk."

"He is to sustain (at the prices agreed) all manner of waste and charges in and about the said meltings; and shall make up his account with the Master at the end of the year, or at any other time; and shall pay over such balances as he may then appear to have or may remain charged with on the books of the office."

Extracts from the Minutes.

The Minute 7th Feb. 1818, (by order of Mr. W. W. Pole,) directs an account to be kept by the surveyor of meltings, of copper added to ingots over and above the alloy set down in the pot book for the ingot pots of gold; and the melter is to be charged with the amount of the standard value of such copper.

The Minute 11th Feb. 1820, directs that no additional alloy is to be allowed to the melter on ingot pots of silver; but that alloy may be added under the order of the King's assay-master to the scissel pots.

The assayers are to report to the full value of the ingots; and if alloy is necessary to be added to the ingot pots, over and above the pot book, an account is to be kept and value allowed to importer.

The Minute 5th May 1820, directs that scissel and ingot pots shall not be mixed together.

That pots stopped shall be weighed into the office and repotted with alloy—value to go to the office, and melter to be paid, in cases as described, for expenses in remelting. This order is confined to gold.

The Minute 2d August 1820, directs: In consequence of the importations consisting altogether of French gold, which could not (owing to the different modes of the two countries in calculating the fineness by millièmes and caret grains) be brought to the full value without additional alloy at the meltings—three grains of copper per lb. are ordered to be mixed, and an account kept of the standard value, and the same to be charged to the melter.

235

(A.)
Royal Mint.

Appendix, No. 3.
Comptroller's Report.

Memorandum, April 1835.

In stating the office balances for the last month, the melter has been charged by Mr. Barton, the comptroller, with an addition to the standard value of his balance for silver, on account of alloy added to the scissel pots in the melting-house, by order of the King's assay-master.

Mr. Barton justifies this charge on the ground, that the ingots from which the scissel in question was derived, were reported by the master's assayer less fine than they really were, or not up to the full standard; and consequently, if the alloy had been added, as he alleges it ought to have been, to the ingot pots in the first place, so as to bring them up to their full standard value, the office would have obtained the advantage instead of the melter, in conformity with the Minute of the 11th February 1820, and the provisions of the indenture and agreement.

Against this proceeding, Mr. Mathison (the melter) is desirous of appealing to the Master of the Mint, as an act interfering with the usual practice of the office in respect to the melter.

The Master has, therefore, referred the subject to the deputy-master and King's assay-master, in order that they may report on the practice; and the following observations are accordingly submitted by them for the Master's information:—

They are of opinion,

"That the provisions in the indenture and agreements are intended for the purpose of restricting the melter from mixing (on his own authority) any additional alloy to the pots, beyond what is set down in the pot book; but they apprehend that the said provisions do not prevent, in peculiar cases for obtaining the true standard fineness of the monies, an authority being given (with the sanction of the Master and principal officers) by the King's assay-master for additional alloy to be mixed with the pots in the melting-house.

"That it appears to have been the invariable practice for alloy to be added in the melting-house to the scissel pots, from time to time, under the order and at the discretion of the King's assay-master.

"That this practice has been allowed for the purpose of meeting the refinement which takes place by repeated meltings of the bullion.

"That it appears also to have been the practice, when a pot has been stopped for being worse in fineness, to mix it with another pot, which may have been stopped for being better or too fine; and, if the betterness preponderate over the worseness, to allow a portion of alloy to be added to adjust the exact standard.

"That the fineness of the bullion or ingots imported for coinage cannot be reported mathematically true; being at times, in a small degree, coarser or finer than is expressed in the assay report, which does not embrace any fraction under $7\frac{1}{2}$ troy grains in gold, and 12 grains in silver. The assayers, therefore, in reference to the instructions in the Minute of the can only report the fineness up to these points.

"That it is not the practice of the King's assayer, when, under the above circumstances, there is a small deviation from the exact standard in the ingot pots, to stop such pots.

"That it is expedient, therefore, that a discretion should be allowed to the King's assay-master in occasionally mixing alloy with the scissel pots, otherwise the work would be stopped; and it would be impossible to make the monies of the due standard fineness.

"That in consequence of the many risks which the melter runs of having his pots frequently stopped, owing to the refinement which takes place by repeated meltings, or from the nature and accidental bad mixture of the ingots, or other circumstances, it has formerly been always considered fair and reasonable, that the benefit which may casually arise from the alloy ordered by the King's assayer to be added to the scissel or stopped pots, as described, shall be given to the melter as a compensation for the waste and expenses in the remelting.

"That in those cases where it has been necessary in the first instance to add alloy over and above what is set down in the pot book to the ingot pots (as in the French gold alluded to in the Minute 11th Feb. 1820), such alloy has been carried to the credit of the office, and not of the melter.

"That the present case appears to be one when the deviation in fineness in the ingot pots was not sufficient to induce the King's assayer to order them to be stopped; and consequently, on the scissel derived therefrom being returned for melting, he directed it to be mixed with a small portion of alloy, to correct the overfineness of the metal, which alloy, according to the usual course, has been claimed by the melter for his benefit.

"That although the practice of adding alloy to the scissel pots is not strictly warranted by the terms of the indenture and agreements, it is nevertheless the opinion of the King's assay-master, that, if the practice should be withdrawn, it would be hardly practicable, if not impossible, to procure the working of the coinage to the proper standard of fineness, and would possibly lead to deviations (though quite within the remedies) from the standard, which might throw a discredit upon our monies abroad."

No. 8.

Extract from the Minute of 7th May 1836.

The Master having read a letter from Mr. Mathison, (first clerk and melter), dated 2d April, and another from Mr. Barton, (the comptroller), dated 5th May, on the subject of the alloy added to the scissel pots, under the authority of the King's assay-master, and in reference to a complaint of Mr. Mathison, that he had been charged in his balances by Mr. Barton for the standard value of such alloy, contrary to the usage of the Mint;

The Master was pleased to take into consideration the provisions of the indenture and agreements, and also the Minutes which had been passed on the subject of the alloy; and it appearing that the addition of alloy to scissel pots, under the authority of the King's assay-master,

(A.)
Royal Mint.

Appendix, No. 3.
Comptroller's Report.

was according to ancient usage, and so understood by the melter in his agreement with the Master; that it had been enjoyed by Mr. Mathison, and that the Minute which appears to revoke the same was of ambiguous meaning, and not communicated to Mr. Mathison; Lord Ashburton is of opinion that it should not be put in force in the present case, and the alloy in question should be given in benefit of the melter. But the Master is also of opinion, that the several Minutes relating to the alloy, and also the practice, should be revised, and he recommends the consideration of some new regulations to his successor.

— Appendix, No. 4. —

Appendix, No. 4.
King's Assayer's Report.

THE KING'S ASSAYER'S REPORT.

A REPORT of the King's Assay Master to the Right Honourable the Master of the Mint, on the subject of the Joint Assay of the King's and Master's Assay Masters, relative to the Standarding of Bullion for Coinage, &c. &c. &c.

To the Right Honourable *H. Labouchere*, Master of the Mint, &c. &c. &c.

Sir,

Having received, through the deputy-master of the Mint, a request that you may be informed of all such matters relating to the King's Assay Office as may possibly, in connexion with the Mint generally, come under the consideration of Parliament in the ensuing Session, and as you have expressed yourself to me, through the deputy-master, in the following terms:

"For this purpose I am to request the principal officers of the Mint will favour the Master severally with their advice and information as to the departments respectively placed under their superintendence and management; you will therefore be so good as to prepare a Report, to be laid before the Master, as to the propriety of any alteration in your department; especially whether it may be desirable to have the joint assay of yourself and the Master's assayer for the reports, according to the Mint standard of the ingots or bullion imported for coinage; and also in the joint inspection with the melter as to the fitness and malleability of the ingots for coinage, and any other observations you may think proper.

(signed) "*J. W. Morrison*, Deputy Master, &c."

I feel, Sir, that in executing this task imposed upon me I am undertaking one not only of difficulty, but one, in some respects, of an unpleasant nature; of difficulty, because the constitution and practice of the assay offices of the Mint are not so easily explained and made intelligible to those who can judge of them only at a distance, and through a written account of their proceedings; of an unpleasant nature, because in a report of this description the King's assayer is compelled not only to allude to his office, but to himself and predecessors personally in their management of it. The questions you have asked me are not such as I could answer to your satisfaction without first going into a somewhat detailed account of the constitution and general practice of the office over which I preside; the doing so may swell this report to an inconvenient length; but as a clear insight into all the departments of the Mint is, I presume, the object you have in view, you will, I trust, feel I have no other course to pursue than to begin with such preliminary remarks and explanations as will conduce to the full understanding of the answer I may have to give to the questions more particularly proposed for consideration.

I trust I shall not be considered as introducing anything foreign to the subject if I begin by recording the opinions of those capable of forming a right judgment as to the importance, in a country like our own, of such a constituted check over the transactions of the Mint as is effected by the King's assayer, for it will be by keeping in view the object for which a King's assayer is considered essential in a Mint, namely, the maintaining the purity and integrity of the coin, that a right judgment may be formed of such minor details in practice as tend in any degree to this desirable result.

In the "Supplement to the Encyclopædia Britannica," vol. iii. p. 1, *Mushet on Coinage*, are the following remarks:

"The most important officer upon the establishment of the Mint, with a view to the maintenance of the standard purity of the coin, is the King's assay-master; and there are persons mentioned as holding this office in the 6 Henry 3. As this officer had the assaying of all the bullion after melting for coinage, and after it was coined, it is obvious that the very existence of the credit and honour of the Mint and Sovereign depended upon the duties he had to perform; and such an officer probably existed from the earliest period of the fabrication of money, though our records do not accurately define the precise date of his appointment."

In the works of the late Mr. Harris, whose writings and opinions on subjects connected with coinage are so well known and appreciated, may be found the following remarks:

"The officer of the greatest trust in the Mint, and on whose skill and care the just standard of the coin chiefly depends, is, undoubtedly, the King's assay master. This officer is naturally of the first importance in every Mint, but he is rendered more so in proportion as the other checks are less attended to. He, only, can discover and correct mistakes in the reports of assays made at the Master's Assay Office, or in calculating and adjusting the bullion to standard in the Office of Receipt, or detect errors from design or mismanagement in the melting-house. In all these places mistakes may, and sometimes do, happen; but in the last there are many temptations to fraud which are hardly to be withstood, but from the fear of detection by the most watchful care of the King's assay-master; and in this sense too

237

(A.)
Royal Mint.

Appendix, No. 4.
King's Assayer's Report.

too he is the only control over the moneyers. It is clear that he is the chief and ultimate check on every operation respecting the intrinsic fineness of the coins at the Mint. Without the most unremitting attention in his office frauds and errors would creep in which, though small in the detail, might amount in the gross to an amazing value without danger of discovery."

Such, Sir, were the opinions of a man whose judgment was entitled to the highest consideration. I would next refer you to a Report of the Right Honourable W. W. Pole to the Committee of Coin, made in the year 1814, he being then Master of the Mint:—

"The King's assay-master is the most important of all the check officers; and, although his salary was considerably increased in Lord Bathurst's mastership, yet, in my opinion, it is still very inadequate to his services. I should propose a further allowance to this officer; but he should be bound to instruct a probationer thoroughly in all the branches of his art. Mr. Harris, a late King's assayer, received a pension for life from the Treasury for the like service, but I should recommend that the King's assayer's salary should be permanently raised, and that he should be obliged to instruct a person in the art of assaying as part of his official duty. The fees the King's assayer receives from the Bank of England and Ireland for assaying the bullion they purchase, can only be considered as a tribute to his superior science and integrity paid by the parties interested; it being certain, that could they procure the performance of this most important service with more ability, judgment or accuracy anywhere else, they would not come to the King's assayer. It would, therefore, in my opinion, be most impolitic as well as unjust to take any of his profits of this nature into account in fixing his salary as a public officer. The King's assayer is of such importance, and so much science and integrity are requisite for the satisfactory execution of his duties, that I trust your Lordships will feel that the salary of this officer should not be fixed at less than the amount I have stated (900*l*). The King's assayer relinquishes all fees from Government for extra duty from commissary and colonies, and all dependencies of the State."

I would only, of myself, add, in addition to the opinions recorded above, that it must be admitted by every candid person who reflects upon the subject, that the King's assayer is of paramount importance where the necessity of maintaining the currency of the country in its utmost state of perfection and purity is duly estimated.

The King's assayer is responsible, and the Master of the Mint must confide in him for the integrity both in weight and fineness of every pound weight of gold and silver coin that issues from the Mint. An error committed by him might throw the whole circulation of the country into confusion.

There is no constituted check upon his office; Government confide solely to his skill and integrity, and a deficiency in either would be productive of the worst of consequences.

A public trial of the monies both of gold and silver (a pyx, as it is called,) takes place only at distant intervals, and the millions that issue from the Mint during these intervals are issued upon the responsibility of the King's assayer. It is not difficult, therefore, to see how much is entrusted to this officer, and it has always been found at the public trials of the pyx that his duty to the public has been ably and faithfully performed.

The King's assayer cannot perform his duties by deputy, and the only assistance he has is from a probationer, whom he is bound to instruct, and who can be of no assistance to him till that instruction has been completed.

Having thus explained the nature of the office of the King's assayer, I would proceed with some explanation of the duties and details of his office, as these will also bear upon the particular questions now under consideration.

I begin them with a few remarks on the process of assaying. It is a long, arduous, and unhealthy operation; it subjects the operator to much personal inconvenience at the time, and is ultimately prejudicial to his health. It is, from first to last, a chemical operation, and demands an acquaintance, both theoretically and practically, with chemistry generally.

The operation of assaying is subject to many fallacies which cause much anxiety to the mind during the process, as being prejudicial to a correct result of the operation; it is long-continued practice alone, united with the closest attention, that enable the assayer to meet those fallacies, and prevent those false results, which would be attended with so much mischief. A theory and outline of the operation may be familiar to those versed in science generally, but the difficulty of arriving at correct results is neither known or appreciated. Some opinion may be formed of the length of the operation, when I say that one single experiment upon one sovereign would occupy, including the preparation necessary, from first to last, a period not less than six hours, a great portion of which time would be spent in examining the metal when in a heated furnace, and subsequently in being exposed to noxious fumes, arising from solution in a mineral acid. Accurate weighing, with weights so small and delicate as scarcely to be observed without constant straining and injury to the eye-sight, must begin and finish every operation. I think, Sir, I have already said enough to convince those Members of Parliament who interest themselves in Mint affairs, that a King's assayer, to say nothing of his responsibility, cannot be in possession of a sinecure.

He is compelled to assay all the gold and silver ingots melted by the melter for coinage; he must subsequently assay the money produced from these ingots. He must likewise accurately weigh as well as assay the gold and silver coin, previous to its delivery out of the Mint. He is responsible not only for the fineness, but the weight of the several pounds of coined money, issued from the Mint. The King's assayer must keep books of these experiments, to which reference may require to be made. Should there be any disagreement between the master and the importer as to the value or qualities of the ingots brought into the Mint with reference to coinage, the King's assayer is compelled to decide between the parties.

(A.)
ROYAL MINT.

Appendix, No. 4.
King's Assayer's Report.

By virtue of his office he is a Board officer, and to give his advice or opinion upon the affairs of the Mint generally; he is to have access to the melting and coining departments, and to promote by every means in his power the accuracy and correctness of the coin, to the advantage of the master, the credit of the Mint, and satisfaction of the country.

To insure a competent succession in the assay department he has been authorized to select, and is bound to instruct thoroughly, a probationer in his peculiar art, who may be competent to succeed when a vacancy occurs.

The King's assayer undertakes likewise to make assays for all colonial and other Government services.

Such is an outline of the practical and official duties of the King's assayer, so far as they admit of being rendered intelligible upon paper; I think I may now venture, with a better chance of being clearly understood, to answer the question particularly proposed to me, "Whether it is desirable to have the joint assay of the King's assayer and master's assayer for the reports, according to the Mint standard of the ingots or bullion imported for coinage?"

The question here asked relates to a practice of very ancient date. From all the information I can procure on the subject, I do not think there was ever a period when the King's assay-master did not make a joint assay with the master's assay-master previous to the ingots being classed for standard.

This custom, for there is no law on the subject, is interwoven with the practice of private assaying as practised by the King's assayer for purposes unconnected with coinage, and its origin may be accounted for in the following manner:

Private assaying in the King's assay office is of very early date. It may be traced back in records existing in the King's assay office as being practised by every assayer, at his option, from time immemorial. It is only of late years that any assayer out of the Mint has established for himself sufficient character to induce any merchants or importers of bullion to abide by his decision respecting the value of their bullion, the business of assayers out of the Mint being confined, till recently, to the examination of gold and silver plate for the use of, and manufacture by goldsmiths and silversmiths. Private assays generally have no reference to coinage, and are made by the King's assayer to determine the value of an ingot for sale in the bullion market, and are merely a tribute to the skill and accuracy of the King's assay-master in his peculiar art, in the same way as the Mint engravers are privately employed in their peculiar profession.

I will now revert to the time when the King's assayer in the Mint was employed by all merchants and importers of bullion to decide upon the value of the gold and silver ingots imported into this country. At this time the Bank of England were the only importers of gold and silver into the Mint, the Mint not being open to importers generally. The Bank of England at this time shared (as I hope they will continue to do) in the general confidence reposed by merchants and others in the King's assayer, as an impartial judge of the value of the gold and silver to be bought and sold; the consequence was, that the Bank of England would neither buy, or the merchants sell, by any other "Report" than that of the King's assayer at the Mint. I have said that at this time the Bank were the only importers of gold and silver into the Mint; and as they never obtained any gold or silver but what was "assayed" by the King's assayer, consequently all the gold and silver brought to the Mint for coinage had been previously assayed for their purchase by the King's assayer, and had his report attached to each ingot. There was no law existing then upon the subject, (nor is there now, except the law of custom, and of a system that has been found to work well), and gold and silver came to the Mint with the King's assayer's report attached, because his judgment alone was confided in, and he had consequently been solicited to examine for sale almost all the gold and silver that came into the country.

The master's assayer at the Mint being obliged, by virtue of his office, to examine all gold and silver when brought to the Mint for coinage, for the purpose of combining the several ingots, so as to produce the lawful standard of the country, and as these ingots had all been examined previously, for purchase, by the King's assayer, it became necessary for the master's assayer to examine these ingots only what is termed "singly" and at the opposite end to that at which the King's assayer had tried them; upon this circumstance is founded the present constitution, practice, and consequent emolument of the Master's assayer.

It may be said, all this is true as regards the past; but why adhere to this practice in the present state of the bullion market, and continue the above regulations to such a degree that if gold or silver should now, which is hardly ever the case, come to the Mint without the King's assayer's report having been previously had upon it, this officer does then examine it, at the expense of the importer, in conjunction with the master's assayer's usual examination?

The reasons for adhering still to this regulation are, because it has been always the custom, and is absolutely necessary, as will subsequently appear, for the purposes of coinage, that the King's assayer should examine those ingots, if not before the master's assayer makes his trial of them, then in conjunction with him; and because the master's assayer's office and duties are constituted altogether upon this understanding. Sir, I hesitate not to say that your individual responsibility, as well as my own, demand the continuance of the present system; to recommend a change in this system, I must be convinced of two things; first, that the present system is imperfect; and, secondly, that a better may be substituted: my honest conviction is, that neither the one or the other is the case; were it so, I would suffer no feelings of private interest to interfere with my offering a free and unbiassed opinion. I will dwell a little longer on this subject. It never can be said in justice that this arrangement falls hardly upon individuals connected with the bullion trade out of

the

the Mint, whether importers, brokers, refiners, or assayers; for the Mint business, as above described, is much older than their business, and they undertook their business knowing this regulation at the Mint to exist; nor can the fee here paid by the importer to the King's assayer be considered a hardship, and for the following reasons: we will suppose an individual possessed of an ingot of gold recently imported into this country; to render this ingot of value, the importer must pay a fee to have the ingot assayed in this country, as it could not be sold upon a foreign report produced by its owner. We will suppose the owner of this ingot applies to the King's assayer, who assays it, and the ingot is sold upon his report; the owner would pay the King's assayer his usual fee, and he would sell his ingot at the market-price, without its coming to the Mint at all, and this would finish the transaction; but suppose the owner of the ingot, instead of wishing to sell it in the market, should take a fancy to have it coined into as many sovereigns as the ingot could be made to produce, what steps would he then take? He would bring it to the Mint; he would then have to pay the King's assayer for his assay of it, as he would have done in the former case, and in addition, have to pay the Master's assayer for his additional single trial. It might be supposed at first that he now is a loser by bringing his ingot to the Mint, and by paying two assayers instead of one; but the contrary is the case. The ingot brought for coinage is now, owing to the established difference between an assay report for sale and the same for coinage, of more value to him, to the extent of one-eighth of a carat grain in the pound troy, than he could have sold it for in the market, and he gains on an ingot of the weight of 20 pounds troy full twenty-eighths, or 25*s*. He is here then a considerable gainer; and what does he gain besides? He has not only gained 25*s*. (deducting the master's assayer's fee) upon an ingot of 20 pounds, but he has got what no manufactory in England would give him; he has got his raw material transferred into a manufactured one, and all this for nothing: he leaves the Mint with more hard money in his pocket than he could have realized for his ingot from any other quarter.

Let me now dwell a little on the most important point of all, viz. the increased accuracy and proximity to standard as regards the coin that is obtained through the present system, and the consequent security of the Master of the Mint. You may not be aware, Sir, of the numerous imperfections to which ingots of gold and silver are subject, whether arising from inadvertence or design. In the course of my practice I have met with ingots of gold differing more than a carat in fineness at their opposite ends. I have met with ingots of silver including all degrees of fineness, from perfect purity down to a considerable worseness below standard. I have met with ingots combined with palladium, or platina, in botches or patches, as it were, and as such totally unfit for coinage. I have seen ingots plugged with platina. Again, I have seen ingots in which both platina and palladium have been uniformly diffused through the mass, but from the colour alone unfit for coinage. I have met with ingots sound in one part and brittle in another. I have met with ingots containing the metal iridium in grains embedded in the ingot. Occasionally, ingots are met with containing much volatile matter, such as mercury, sulphur, &c. These are unfit for coinage, yet would speedily find their way to the Mint if there was any probability of their condition not being detected. The Mint would be a capital receptacle for them.

Again, the art of assaying is not capable of mathematical accuracy, and the assistance and confidence which is derived by the mutual comparison of results between the two assay-masters tend much to the accuracy of the coin.

In examining a silver ingot of the weight of 60 pounds, the portion which I should take for an assay would be one 14,400th part of the whole mass, and upon this minimum a report of the quality of the whole ingot is to be attached. I have known, Sir, cases where both assay-masters have been agreed upon their comparisons, and yet the ingots after assaying and melting have not turned out standard, owing to imperfections in different parts of the ingots. Under such circumstances can it be recommended, Sir, that any practice that promotes both expedition and accuracy should be superseded?

Would the Master of the Mint and the King's assayer, who are alike responsible for the integrity of the coin, recommend any change that might risk that integrity?

I am proud and happy to say, from the regard I have for my predecessors in office, that the accuracy, as regards the standard of the coin of this country, has, I believe, never been equalled, and at every public trial of our monies, a "verdict" most honourable to the Mint has been awarded. I have said, Sir, that the present system gives dispatch to the manufacture of money. It may be asked, how? Suppose, then, ingots of gold and silver were henceforth "potted," as it is termed, on the report of the master's assay-master alone, and it was known out of the Mint that the Mint had relaxed in its usual checks. I have described the state of imperfection to which ingots are subject; what then would be the description of ingots that would come to the Mint, were it known that ingots would be "potted" into work there on one assay-master's report alone? But then it may be said, "Well, if the pots do not turn out standard, the King's assayer will find it out and "stop" them." This is the point I wish to arrive at, and show thereby that the present system promotes dispatch, inasmuch as it renders it less frequently necessary to "stop" pots. To stop pots is to cause 500 pounds' weight of metal to be carried back to the master's assay office, to be there re-examined by him, to be again classed or potted, and finally to be re-melted, entailing much expense upon the Mint, and causing sometimes a delay in the delivery of this quantity of metal of a whole week, and this sometimes when there is an immediate and great demand for coin. Sir, I hesitate not to say, that were ingots classed or potted on the report of the master's assayer alone, I, as King's assayer, should be compelled much more frequently to stop the pots after melting than according to the present system I find it to be necessary. It is a question that may be asked in theory, why should both the assayers'

(A.)
ROYAL MINT.

Appendix, No. 4.
King's Assayer's Report.

reports be necessary in producing standard; but no practical person can doubt the necessity of it for one moment. I could adduce instances in which a casual departure from this established practice has been attended with very injurious results; but I think I have already said enough to show the superiority of the present system.

It has ever been my pleasure to give matters connected with the Mint, particularly in the King's assay offices, my best attention and consideration, and in the year 1826, six years after my first appointment as probationer, I committed to paper such remarks as show that my opinion then and now upon this subject remains the same.

I will now advert to another division of the same subject, which is this: is it more desirable that the King's assayer should be remunerated for this extra service by a payment from the importer, or that an augmentation of his salary should be awarded, proportionate to the advantage hitherto derived from such payments or fees?

That this service should be rendered by him in addition to his arduous and responsible check duties without remuneration either way, is a proposition I am happy to say in justice to all parties, I believe has never been under consideration; I need not therefore dwell here.

See p. 41.

I will now state why I think the present system of a fee paid by the importer is the fairest and most preferable mode of payment. I must here refer you, Sir, again to the origin of this Mint practice, as I have already detailed to you the fact of the King's assayer having been almost universally appealed to for his report upon gold and silver ingots, which were merely intended for sale in the bullion market, some of which came, after years, to the Mint for coinage, others perhaps never came at all; all that did come, however, after whatever period of time, coming with the King's assayer's report attached to them. This has continued to be the practice; the Master's assay office is constituted accordingly, as I before stated, and, for the reasons detailed to you, this practice increases the facility and security of coinage.

Now, with reference to the fee; I wish you clearly to understand that the fee paid to the King's assayer has been paid perhaps years before the ingot to be coined has come into the Mint, that all ingots coming to the Mint with the King's assayer's report have been reported by him and paid for long prior to their coming, and it is only very rarely, as in the case of an ingot coming for coinage without the King's assayer's previous report, that a fee is then paid by the importer for such report, as necessary for coinage. Now, Sir, were such instances to multiply and the King's assayer were called upon to report many of such ingots after they were come to the Mint for coinage, I do not hesitate to state that his official duties as a check officer would preclude the possibility of his doing so. But the present system obviates this difficulty, for as almost all ingots come with the King's assayer's report already attached, the assays of these ingots have been made by him in times of comparative leisure at the Mint, and as preparatory to the Mint's future coining. Were any custom to arise which should cause the King's assayer's report not to be required until the ingots were absolutely in the Mint and the Mint in full work, he could neither have the time or the strength to undertake their examination.

If it should be said, cannot the fees which the King's assayer states to be seldom required then be commuted by a proportionate increase of salary, and so relieve the importer of the ingots into the Mint of this charge?

I should say it might, if the cases, which are now rare, would not then become frequent, and as such the King's assayer unable to meet them, and were it thought right that the importer of ingots to the Mint should be still more benefited than he is at present. That these cases would become more frequent is certain, not that such a change would make any difference in the established practice of the Bank, through which channel the public is so well provided with whatever currency the state of the country requires; but the cases might be made more frequent by a class of persons who, becoming possessed of ingots of suspicious character, would think the best and cheapest bargain they now can make would be to send their rubbish to the Mint, glad of an opportunity, either through a diminished check or a freedom from a fee, to get rid of an article that would be scouted and rejected from any bullion market in Europe, but received at the Mint, to the discredit of that establishment and consequent expense and loss to the public. I have no fear, Sir, but that you, as Master of the Mint, will defend the Mint from innovations of such dangerous tendency, of which those only practically engaged there are able to form a correct estimate.

I may say that nearly the whole of the private assaying in the King's assay office is for the Bank of England as a public body and as constant purchasers of bullion. The employment of the King's assayer by the Bank for private assays has been of very long duration, and I trust to the mutual advantage of both parties; and surely no government in securing the services of any individual most eminent in his peculiar line would debar him from filling up any leisure time he might enjoy by practising his particular profession, unless indeed they were to remunerate him at a much increased rate and exclusively on such an understanding. But, Sir, let me refer again to the importer. I have proved that, including all expenses he may pay at the Mint, he yet goes away with more coined money in lieu of his ingot than he could possibly obtain for it through any other channel whatever. Surely then, the public (for the Mint is open to everybody) derive every possible advantage from this establishment, and cannot in fairness expect more.

The question has been entertained, whether the public does not already profit too much by its transactions with the Mint, but this is a question not to be discussed here.

I have explained all the facts connected with the subject to the best of my ability, though I am well aware the subject itself is not one that can be rendered intelligible, except to those having some interest or concern in such matters. At all events, I have made you acquainted with

with the reasons that exist for the present state of the Mint practice as regards the King's assay office, and I believe there never has and hope never will be any practice instituted or continued there that will not be defensible by the strictest rules or stand the closest inquiry that may be set on foot respecting it.

Sir, by the Mint indenture and the laws of this country, you are responsible to the King for the integrity both by weight and fineness of the coin of this realm. You undertake this responsibility, and can alone meet it through the instrumentality of the King's assayer. Your responsibility therefore may be said to devolve upon him, and the advice he now offers you with respect to the subject under consideration is such as will alone enable both parties to meet with confidence and security the public scrutinies that await them.

Throughout the whole of the above remarks, I have said no more about the duties and practice of the master's assay office than was necessary to explain the subject under consideration, and to show the advantages of the present system from its practical results. If it is difficult to explain the custom and practice of my own office, it must be doubly so to attempt that of another, and as the master's assayer has received a circular along with other officers of the Mint, for such remarks as they may think proper to give, I have felt it right to leave the subject wholly to his hands.

With regard to the question of alloy as proposed to the comptroller, I would state, if thereby is intended the question, "Who shall derive the profit occasionally arising from the alloy?" I think the melter and all the Board officers should express their opinions; but, if the necessity for alloy at all, the practical influence of alloy on the state of the money, how the adding of alloy by the King's assayer to the scissel tends to the accuracy and facilitates dispatch in coinage, those and other matters connected with this subject are such as the King's assayer alone can answer.

I need not fear, therefore, that you would attempt any alteration on this point without consulting the King's assayer; but I would rather defer any remarks I may make till after the production of Mr. Barton's report on the subject.

With respect to the examination by the King's assayer of ingots received into the Mint, as regards their malleability and fitness for coinage, it is well provided by the indenture, that in case of dispute between the importer and the Mint upon these points, appeal should be made to the King's assayer, and his opinion should be considered binding. I conceive, Sir, that the security of the Mint is much served by this regulation, as it tends to diminish a spirit of risk and enterprise in Mint transactions, which must be totally subversive of profitable results to the establishment.

In the question as originally proposed to me, the name of the melter is put in connexion with that of the importer, as regards those ingots. Such can only be the case when the melter voluntarily takes upon himself a risk which the office declines. I consider it quite right that the melter be allowed to refuse such ingots as he may conceive to be unfit for melting, and as calculated to injure his interest; but I must speak strongly against his being allowed to receive, though at his own risk, such ingots as the office would otherwise reject; security from first to last, perfection as much as possible, from first to last, should pervade every operation in the Mint, and a sound and wholesome state of currency can be alone maintained by these means.

I conceive, therefore, that even subsequent to a case of appeal to the King's assayer, the melter might yet put his veto upon his reception of any particular ingot, and refuse it as dangerous; but I am of opinion that he never should be allowed to melt what the office, particularly if confirmed by an appeal to the King's assayer, would return to the importer. There is much less injury and loss of time in returning at once a dangerous ingot to an importer, than in allowing such ingot by combination and melting to render unfit for coinage six or seven others.

The King's assayer cannot make his examination of the large masses of gold and silver that are delivered for fabrication, but upon the full conviction that such masses are well melted, are of uniform quality throughout, and that nothing suspicious or doubtful is to be met with in any part of their composition. Then and then only can he pronounce upon the nearness of such masses to their lawful and prescribed standard.

The melter, as a contractor for the meltings, must naturally wish to melt as cheaply as possible; likewise, also, must he naturally wish to melt as expeditiously; both these feelings have a tendency to an imperfection of result, and create a necessity for the full exercise of all the established checks, both before, during, and after the operation.

The alteration in the nature of the alloy of gold during late years creates a difficulty in combination which did not exist when silver was in part the alloy, and the system of refining almost all ingots, whether gold or silver, compel the addition of large quantities of copper to be added to produce the standard, and such copper is often with difficulty diffused equally throughout the masses of metal which are undergoing the process of melting. Again, ingots subsequently to refinement may retain a portion of such substances as have been made use of during that operation, whether of a volatile nature or otherwise, which substances may materially interfere with the uniform quality of such refined ingots, and consequently, if not previously detected, subject the "melting pots" to considerable imperfection and deviation from standard.

Should such incorrectness be partial, and not diffused throughout the "melting pots," it might escape detection in the King's assay office, and consequently affect the state of the coin. I mention these circumstances merely to show how dangerous it would be to relax now in any of the established checks, for I have no scruple in saying that the "remedies" the Mint is allowed for fallibilities are now smaller in proportion than ever, inasmuch as the sources of error and danger have considerably increased. Sir, it is a matter of some surprise

(A.)
ROYAL MINT.

Appendix, No. 4.
Kings Assayer' Report.

to me, that during the recent discussions of Mint affairs, and in reference to the inquiries that have and are to be made respecting the Mint, the assay offices appear to have been more called upon to furnish returns than perhaps any other departments in the Mint.

As I believe the skill and integrity of these offices have never been called in question, and as they may defy the most strict scrutiny on these points, as likewise the public and Parliament, if they know the connexion between the assay offices and the integrity of their currency, have the fact staring them in the face of the unrivalled excellence of our coin, not only in its manufacture and external character, but in its approximation to the prescribed standard of the country, both as regards its weight and purity, and this not only of large masses, but of every individual piece; under these circumstances I do say I feel surprised that so much inquiry has been thought necessary. It will be recollected by you, Sir, that during the last session of Parliament the King's assay office was particularly called upon to make a return of what private business and private emolument had been derived in it for the last 15 years, although such business and emolument was totally unconnected with Mint business, having no more to do with it than the private business, as I said before, of the Mint engravers, and therefore hardly a matter for public inquiry. I believe I am correct when I say that this office alone, since the final settlement of the Mint constitution in 1817, has been lowered in salary, and lost the gratuity for length of service that was formerly allowed. I should not think, Sir, I was acting in the spirit in which you asked for information respecting the office I hold, if I were to take advantage of this report to fill it with anything like a complaint or request of any sort. I conceive such would be neither the right time or the right place; and such information and such remarks as I have been able to put together, are in answer and in compliance with your request on the subject. Should ever a committee of inquiry be formed on Mint matters, I do not hesitate to say that the only way to come to a correct understanding and estimate of the assay offices, and the Mint generally, would be to visit the establishment and derive such information on the spot as can never be communicated by a mere *vivâ voce* examination. The Mint contains within itself a practical display of the fine arts; it contains and daily makes use of admirable mechanical contrivances, and performs a variety of chemical operations and metallurgical processes, all tending towards the perfection of coinage. Is it to be expected, Sir, that the practical details of such pursuits can be explained by word of mouth during any inquiry on the subject?

To found any new regulations, or question any old ones, upon such unsatisfactory evidence, can only terminate in unsatisfactory results. Whatever information I am able to give shall be given candidly and cheerfully; so far from shunning inquiry into my own office, I rather court it, and feel that the more the King's assay office is inquired into, the more it will be properly understood and appreciated. I fear, Sir, I may have carried this report to an inconvenient length; I have tried, however, to use such brevity as the circumstances of the case would allow. There may be other subjects not particularly alluded to in your circular, but which may become matter for more general discussion and opinion; upon such matters, as well as those more immediately relating to my own office, you may expect from me at all times the best advice and assistance I am able to afford.

I will add no more at present, than that I remain, Sir, with much respect, your obedient servant,

King's Assay Office, October 1836. *Henry Bingley.*

A SECOND REPORT to the Right Honourable the MASTER OF THE MINT from the KING'S ASSAY MASTER, in reply to the Recommendations of the Comptroller and King's Clerk, respecting Water Silver and Alloy.

Sir, King's Assay Office, 8 December 1836.

As the Report you have recently received from the comptroller and King's clerk contains matter affecting in some particulars the emolument and practice of the King's assay office, I feel myself called upon in reference to these points to direct your attention, in the first place, to the present reduced salary of this office; secondly, to make a few remarks upon the question of water silver, in reply to those contained in the report alluded to, and thirdly, to take into consideration so much of the question of the alloy, also contained in the comptroller's and King's clerk's report, as relates to the department over which I preside.

As a preliminary remark, I would beg leave to refer you to the accompanying printed extracts relating to the King's assay office, which explain the nature of the King's assayer's office, his great responsibility, and the security afforded to the Master of the Mint and the public by the manner in which his duties have been performed, and now proceed at once with the first division of my subject, the present reduced salary of the King's assay office.

In the year 1815, when the salaries and duties of the Mint officers were revised, the salary of the King's assayer was fixed at 900*l.* per annum, it being then made part of his duty, in consideration for that salary, to instruct a probationer assayer without any further remuneration. In the beginning of the year 1820, it being only five years subsequently, I was appointed probationer assayer, receiving my appointment under the full conviction that the salary of the King's assayer was, as described by Lord Maryborough, permanently settled. I remained 16 years probationer, and on the retirement, at the close of last year, of the late King's assayer, I was appointed to the office at the reduced salary of 750*l.* per annum.

I will here add, that my predecessor was in the enjoyment of gratuity for length of service, amounting, in addition to his salary, to about 150*l.* per annum. No portion of such gratuity

gratuity corresponding with any length of service is continued to me; I am still bound to qualify any probationer assayer. I, therefore, receive less from Government than my immediate predecessor by 300*l.* per annum. I would also call your attention to the fact, that although various offices within the Mint have changed possessors since the settlement of salaries in 1815, the King's assay office is the only office within the Mint that has been reduced. I am not without hope that these circumstances will be reconsidered at some future and fitting opportunity, and at once proceed to the second division of my subject, viz.:

Water Silver.

The advantage arising to the King's, and master's assay-masters in the use of water silver is traced back as having existed from the earliest periods, and not as the comptroller's and King's clerk's report would imply, granted in consequence of a recommendation made by Lord Maryborough. This regulation merely confirmed an old established practice.

It is prominently brought forward in the joint report of the comptroller's and King's clerk, that water silver, at the time of the notice taken of it, did not average more than 25*l.* per annum. This sum, Sir, was only mentioned by the late King's assayer as the average of a certain number of years then and last past; years in which, this country being involved in war, there was comparatively but little coinage. This sum could never have been mentioned prospectively, as no knowledge or information as to the future wants of the assay offices could be required or obtained.

In a subsequent part of the comptroller's and King's clerk's report your attention is particularly directed to the fact, that in 1821 water silver amounted to 700*l.* per annum, and this year 150*l.*

I think, Sir, I have some reason to find fault with this statement, because, taken as it stands, it would lead you to the conclusion that water silver is a much greater expense to Government than it really is, and because this statement should, if given, have been accompanied with other and explanatory matter.

In the late Returns to Parliament respecting the Mint you will find the total amount the Mint paid for water silver during each of the last 15 years. Mr. Barton has selected the largest amount, but why not have coupled it with the least, which shows that in 1834, much nearer the present time, the whole sum paid was 55*l.* 8*s.* 4*d.* The yearly sums paid by Government for water silver have always been for two offices; and from the printed Returns to Parliament it is shown that the whole silver recovered from solution in the King's assay office during the last 15 years did not average more than 160*l.* per annum, and to recover this considerable trouble and expense is incurred, and should be taken into consideration.

That water silver has been of more advantage to the assay offices during the last 15 years than it had previously been I readily grant, but when this additional advantage was consequent upon additional coinages and greater labour, why should this be objected to any more than the increased expense Government incurs in every other department during such coinages?

Mr. Barton, in his report, confesses that the late King's and present master's assay-masters had a "vested right" in the emolument derived from water silver. I would respectfully submit to you, Sir, that I have a claim and right scarcely inferior to theirs. If I did not feel I had this claim and right I should not require the suggestions of any one to give up that to which I was not strictly entitled.

If, Sir, when I was first appointed to the assay offices I was justified in expecting to succeed to the recently fixed salary of the King's assayer, I was justified in anticipating a continuance of whatever emolument my predecessor might derive from water silver, and I cannot expect to have it retorted upon me and said, that because I am (though I hope only for a time) disappointed in the one case, I should also be disappointed in the other. I feel, Sir, my claim and right to water silver even strengthened by the circumstances that have transpired since my appointment to the King's assay office (although the comptroller, as he states, at my first application for water silver, hinted he should at a future time bring the subject under discussion), viz., the having received it regularly in the usual way through the Public Board of Mint Officers; also from the circumstance, Sir, that on reference being made to you I was compelled to pay (which had never been done before) for cakes of copper to separate the silver on the very ground alleged by the comptroller himself (and subsequent to his former remark) viz., because I was entitled to the silver; and lastly, because Parliament as well as yourself has acknowledged the right to the water silver by inquiring into its value and amount.

I confess myself at a loss, Sir, to know on what public grounds now the comptroller has thought it necessary to raise any further question upon it.

In addition to the regular and responsible duties of my office, I have been at all times ready and desirous of rendering assistance to Government in any way connected with my peculiar department. I have always been ready to assist them by examination and comparison of foreign coins with our own; and recently, for the purposes of the Treasury, I examined and constructed tables of the weight and fineness of nearly 300 gold and silver South American coins, for arranging the military chests abroad, and this without any fee or reward.

I have furnished Government with minute details respecting the gold and silver trial plates of this country, records highly important for Government to possess, and which are now deposited in the Mint library. I continue bound to instruct and qualify a probationer assayer, and that without receiving any remuneration whatever for the service, and my predecessor has ever refused additional compensation from Government (though freely offered)

(A.)
Royal Mint.

Appendix, No. 4.
King's Assayer's Report.

subsequent to re-coinages, in consequence of his having profited during the time by the increase of water silver.

These remarks are forced upon me by the peculiar position in which I find myself placed by the comptroller and King's clerk. I now proceed to the third and last part of my subject: viz.

The Question of the Alloy, so far as relates to the King's Assay Office.

In my late report to you, Sir, you will find the following remarks: "With regard to the question of alloy as proposed to the comptroller, I will state that if thereby is intended the question, Who shall derive profit from the alloy? I think the melter and all the Board officers should express their opinions; but if the necessity for alloy at all, the practical influence of alloy on the state of the money, how adding alloy to the scissel by the King's assayer tends to the accuracy and facilitates dispatch in coinage, these and other matters connected with this subject are such as the King's assayer alone can answer. I need not fear, therefore, that you would attempt any alteration on this point without consulting the King's assayer, but I would rather defer any remarks I may make till after the production of the comptroller's report upon the subject."

It was in these terms I expressed myself to you in my late report. Since then the comptroller's report has appeared, and I find myself called upon to make a few remarks upon it. I will leave the question of the profit arising from the alloy, which forms so important a portion of the comptroller's report, to be replied to by the melter himself, briefly stating to you that the melter has not only always had it, but that it was the opinion of the late King's assayer, as well as my own, that from the nature of the melter's contract, Government should continue to concede this advantage to him, not only on the score of liberality to the melter, but because it forms part of a system which much facilitates and promotes expedition in coinage. With regard to the three regulations proposed by the comptroller for "adoption in the future conduct of the business of the melting department," I would remark, that they create impediments as regards expedition and dispatch in coinage, but as these regulations could only become necessary as a consequence of withholding the profit of alloy from the melter, so till this point is settled I do not think it desirable to allude to them further. The necessity that exists for the King's assayer occasionally to order alloy to be combined with scissel could never, by any practical person, be doubted; this, therefore, very properly finds no place in the comptroller's report, neither do I apprehend that the general practice of the King's assay office could be called in question, either from within or without the establishment.

There is one paragraph, however, in the comptroller and King's clerk's report, which compels me to a notice of it. The passage is as follows: "If the King's assayer were required to report daily to the deputy-master and comptroller in writing the average variation from standard, then very few ingot pots would be stopped, because the master's assayer will always be regularly informed of the kind of work he is producing, and will exercise his judgment in classing the ingots, as we have already explained." Now, Sir, I hope to explain to you that this regulation is at variance with the established constitution of the Mint. The gradual and ultimate effect of such a proposition would be to give the deputy-master, the comptroller, the King's clerk and Mint generally, the discretion now exercised by the King's assayer as regards stopped pots and alloy, though leaving to the latter all his responsibility. But I will discuss the proposition and some of its effects merely as described by the comptroller and King's clerk themselves. Let me remind you previously that the master's assayer, the master's clerks (checked by the comptroller and King's clerk) and the melter combine their operations to produce the standard required, and the moneyers subsequently manufacture the metal delivered to them.

Now, Sir, in one or all of these departments errors involving the purity of the coin might and do arise, and as the consequences would not only be fatal to yourself, but highly injurious to the country, a check officer, styled the King's assayer, is appointed by Government, at once to detect and remedy every error that occurs. The result of the joint labours of the master's assayer, the master's clerks, and the melter, are submitted to his judgment, and if he finds the end aimed at, viz. the greatest possible approximation to standard is obtained, then and then only does he authorize the fabrication of the bullion, and its subsequent delivery in the shape of coin.

The King's assayer is the sole constituted check upon the purity of the coin, appointed by the King for that very purpose, and himself under heavy responsibility if he failed in his duty.

The ingot pots alluded to by the comptroller in his report, are the result of the joint labours of the departments I have enumerated; and if by my examination of these ingot pots, I find them sufficiently near to standard, I send, through the Mint Office, a report authorizing their delivery to the moneyers; to do more than this, to act according to the suggestions contained in the comptroller's report, would be to publish, as it were, a daily critique upon the skill and accuracy of the master's assayer, by making public minute deviations from standard, which none but the assayers themselves can know to exist, or appreciate; the evils resulting from such a course must be sufficiently obvious. By the system at present carried on between the assay offices, the master's assayer receives every information he could possibly require to enable him to produce the standard required. He has the advantage of the King's assayer's joint assay and previous reports to guide him; he has, besides, in writing, direct from the King's assay office, the minute deviations from such reports as observed

observed in the King's assay office, to assist him in his classification of the ingots. In several cases when any irregularity or disagreement has occurred, it has been (as lately in the case of dollar silver) when the joint assay of both offices was dispensed with. When the ingots pots are melted, the master's assayer has been told, that if he hears no remark from the King's assayer respecting them, that officer considers them standard. If the ingot pots are stopped the master's assayer knows why they are stopped, and if they deviate from standard, though within such limits that the King's assayer at that time allows them to pass, then the master's assayer immediately receives such information direct from the King's assayer as enables him to obviate such deviation from standard for the future.

(A)
Royal Mint.

Appendix, No. 4.
King's Assayer's Report.

I trust I have met the propositions of the comptroller and the King's clerk, though affecting both my interest and practice, in a kind and conciliatory spirit. The tenor of my remarks, both in my former and present report, tend, I confess, to the continuance of systems that have experience and practice for their sanction. Although my opinions may not be so acceptable as those which lead to untried and new paths, I hope it will be conceded to me that they are equally honest, and have equally in view the security of the Master of the Mint, the credit of the country, and the well-being of the establishment.

I remain, Sir, your obedient servant,
Henry Bingley,
King's Assay Master.

— Appendix, No. 5. —

Mr. BRANDE'S REPORT, (Superintendent of Machinery).

Appendix, No. 5.
Mr. Brande's Report.

Sir, Royal Mint, 1 December 1836.

I am desired by Mr. Morrison to forward to you a statement of the duties and business of my office in the Mint, with any suggestions respecting it which I may consider requisite for your information.

As clerk of the irons, or, in other words, as superintendent of the die department, the whole care and management of the manufacture of the dies employed in the British and Colonial coinages, is under my immediate direction. I have to provide the steel for the purpose, to see that it is properly forged and wrought by the smiths of the Mint, and that the dies are duly brought up under the multiplying-press, and subsequently turned, lettered, hardened and polished, so as to be in all respects proper to be sent into the coining-press room. When they are there damaged or worn out, they are returned by the proper officer (the surveyor of the money-presses) into my office, where they are registered, and retained till it is deemed expedient to destroy them, an operation which is performed under my direction and superintendence, together with that of the deputy-master, and of the comptroller, who, at that time, check my accounts of the number of dies manufactured, compare them with those destroyed, and examine as to the correct number of those which remain on hand. Regular accounts are therefore kept in my office, of the number of dies remaining on hand, of those which are fit for service, of those reserved for destruction, of those which have been defaced or destroyed, and of those which are in the hands of the moneyers. And, inasmuch as the dies, during their manufacture, are necessarily in the hands of the engravers, turners, polishers and other artificers connected with this department, a daily account is kept in my office of the number and denomination of dies in the progress of manufacture, showing where or with whom they are to be found. A book is also kept exclusively for the entry of the dies, matrices and punches, which are manufactured, in the form of a waste-book, and also a ledger or final statement of the business of the office, in which the total manufacture and consumption of dies, and the number fit for service at the end of each month and year, together with an account of all matrices and punches under my care, and such other particulars as I may deem it right to put on record, are entered, and annually examined and counter-signed by the deputy-master and by the comptroller. From this book an annual statement of the manufacture, consumption, and comparative wear of the dies, is compiled, and recorded in the Mint office.

The matrices of the different coins when completed by the engraver are also deposited in my office, as well as the punches which are obtained from them, and through the medium of which the dies, which are fac-similes of the matrix, are obtained. Of those matrices and punches an account is kept in all respects similar to that of the dies.

The accounts of my office, including wages paid to the artificers and workmen, and necessary disbursements incurred in the purchase of steel, and other articles required for carrying on the business of the department, are delivered quarterly into the deputy-master's office, together with a general statement of the expenditure of the department, and of the imprests made to me by the deputy-master for defraying these charges.

The duties of the several persons employed under me in the die department, are stated in the annexed papers (Nos. 1 and 2). Those which belong to myself, as clerk of the irons, are specified in the Mint indenture; they were revised, and slightly modified under the sanction of Lord Auckland, as will be evident from a copy of the same already in your possession.

There are some important points connected with the die department of the Mint, to which I have occasionally directed the attention of the master and of the Board officers, as requiring their serious attention.

It would contribute much to the security of the dies, and to the facility of carrying on the general business of the office, if the whole of this department were conducted in one part

(A.)
Royal Mint.

Appendix, No. 5.
Mr. Brande's Report.

of the building. At present the dies are forged and turned in one place, brought up from the punches, annealed, hardened and kept in another, polished in a third, lettered in a fourth, and submitted to the inspection of the principal engraver in a fifth.

This department, in a well-regulated mint, should be so arranged as to admit of the whole of the business being conducted under one roof; and although our present arrangements are such as to prevent the shops for the forging and turning of the dies to be connected with the other branches (without incurring an expense which probably would be objected to), the other offices might be brought together, if an additional story were added to the present die-office, an alteration already sanctioned by former masters of the Mint, and for which a plan and estimate have been laid before the Treasury, but which, for reasons with which I am unacquainted, have never been carried into effect. If this were done great security would accrue to the keeping of the dies, and the necessity would in great measure be obviated of sending them, in the progress of their manufacture, from one part of the Mint to another, which increases and at the same time impairs the responsibility of any individual for their safe and accurate keeping. The chief engraver also, by this addition to the die-office, would be provided with a suitable place for carrying on the business of the Mint, instead of, as at present, conducting it in any room in his private dwelling-house which he can spare for the purpose, and which is at once inconvenient to himself and highly unsafe and improper as relates to the custody of the matrices, punches and dies.

The proposed addition to the buildings of the die department would also afford a room in which the curious and valuable collection of ancient and modern matrices, punches and dies, now inconveniently stowed away in the closet of the board-room, might be properly arranged and catalogued, so as to render them accessible to those who are engaged in inquiries connected with the monetary history of the country, and in this respect to vie with the arrangements of the mint in Paris.

The next duties of my office in the Mint are those which relate to the superintendence of the machinery; these are set forth in the instructions of the Mint indenture, and are, I think, in all main points effective and sufficient. But in regard to the machinery in general, I would observe here, and have repeatedly urged the subject at other times, that there are no plans, drawings or descriptions of it, in possession of the Mint, of such nature as to be practically useful. We are even ignorant of the direction of the sewers, drains and watercourses, and of many particulars respecting the foundations of the buildings and machinery; I would therefore submit the propriety of such plans, drawings and documents being forthwith provided by the Board of Works, and that copies of them should be deposited in the Mint-office.

I am not at present prepared to recommend any further reduction in the number of persons employed in the departments under my superintendence, having already reduced them and the general expenses of the office to the lowest point, consistent with the effective performance of the necessary and fluctuating business of the Mint.

To the Right Hon. H. Labouchere,
Master of the Mint, &c. &c. &c.

I have, &c.
William Thomas Brande.

(No. 1.)—Duties of the Foreman of the Die Department of the Mint.

To attend daily in the office during the hours of business.

To make regular entries in the day-book of the transactions of the die department, according to the directions of the clerk of the irons; to report to him any irregularities in the attendance or conduct of the workmen, and to superintend their proceedings.

Under the direction, and together with the clerk of the irons, to superintend the uses made of the die-multiplying-press; to be present at the opening and closing of the same; to be responsible for the safe keeping of the keys; and to assist the clerk of the irons in enforcing such regulations respecting it, as may from time to time be ordered by the Board of Mint officers.

To enter in the day-book the work that is put under the die-multiplying-press for the purposes of the Mint, and for the engravers; and to see that it is not employed for any other uses than those contained in the instructions to the clerk of the irons.

To collect daily all matrices, puncheons and dies, from the turning-room and other branches of the department; and to see that they are safely deposited in the die-office before the workmen leave the Mint.

To keep an accurate daily account of all dies, puncheons and matrices in the hands of the engravers or polishers, and of the dies delivered into the press-room, and of such as are returned or changed.

To arrange in their proper places all broken and worn dies, and all useless matrices and puncheons, and to keep an account of the same, and of such as are ordered to be destroyed; and to assist in superintending their destruction.

To check the die-book on the first day of every month, and to enter the monthly state of the dies, as to manufacture and destruction, in the form of a memorandum in the day-book.

To keep the accounts of the die department, under the direction of the clerk of the irons.

In the absence of the clerk of the irons, to give such directions respecting the manufacture of the dies, as may be required for carrying on the coinage; and to transact such general business of the office as may be requisite.

14 October 1835.

By Order of the Board.

(A.)
Royal Mint.

Appendix, No. 5.
Mr. Brande's Report.

(No. 2.)—Rules and Regulations to be observed by the Persons employed in the Die Department of the Mint.

The several workmen in the die department of the Mint shall be on duty at seven o'clock in the morning, and remain at their respective employments till four in the afternoon; or, if required, till six.

They are allowed half an hour for breakfast, and one hour for dinner, but are so to arrange their meals, as at all times to leave one person on duty in the turning-room, and one in the die-hardening room.

They are not, under any pretence, to admit strangers, or allow any other person or persons to enter the respective shops, except those actually employed in the business of the department.

They are not to absent themselves from duty, or to leave the Mint during working hours, without permission of the clerk of the irons, or the foreman of the department.

They are to preserve order and cleanliness in their respective workshops, and to be responsible for the safe keeping of the machinery, tools and other implements committed to their charge.

The engineer is to be on duty at such hour as may enable him to start his engine at seven o'clock in the morning, and is to be held responsible for the cleanliness and order of his engine, and of the engine and boiler houses.

The several workshops are to be locked up when the workmen go off duty, and the keys deposited with the porter at the gate.

The different artificers and workmen are further directed to obey such orders as they may from time to time receive, either from the Board of Mint officers, or the clerk of the irons.

14 October 1835. By Order of the Board.

— Appendix, No. 6. —

Mr. WYON'S REPORT (Chief Engraver).

Appendix, No. 6.
Mr. Wyon's Report.

TO the Right Hon. *Henry Labouchere*, M. P., &c. &c. &c., Master of the Royal Mint.

Sir,

In conformity with a letter which I have received from Mr. Morrison, communicating your desire that I would "prepare a report as to any alterations required in executing the service of the chief engraver's office, the accommodation for the work-rooms, and any other observations I may think proper;" I have now the honour to submit the following remarks to your consideration:

The engraving department of the Mint ought to be considered as one of the highest importance, and, in a great nation like England, every accommodation and facility for the dispatch of business should be provided. At present, however, I do not think that any mint in Europe (and I have personally inspected several of them) presents such an entire disregard of all accommodation to the chief engraver as has been permitted to prevail in the British Mint since I have had the honour to hold the office. I should, therefore, ill discharge my duty, if I neglected the opportunity now afforded me of faithfully pointing out to you the consequences which may ensue if a prompt and efficient remedy be not provided.

The original accommodation for the engraving department (though infinitely superior to that afforded at present) appears to have been very ill adapted to the purpose; it consisted of a suite of rooms over the dwelling-houses of Nos. 3, 4 and 5. No. 3 was assigned to the chief engraver as an official residence, No. 4 was intended for the second, and No. 5 for the probationer, or third engraver. There was only one access to this suite of rooms, which led from the residence of the chief engraver. On the superannuation of Mr. Pingo, who held that office, his house was appropriated to the deputy-comptroller, Mr. Barton, who immediately caused the communication to be closed (retaining the room over his own house for his own use). No. 4 was then given to Mr. Thomas Wyon, the successor of Mr. Pingo, and No. 5 was assigned to me as second engraver, and the duties were carried on by the respective officers in the remaining suite of rooms over Nos. 4 and 5. On the death of Mr. Thomas Wyon, his house, No. 4, was occupied by Mr. Pistrucci, who immediately closed up the only remaining communication, leaving me in the smallest house, and without the whole of the accommodation which had been originally intended even for the second engraver.

A work-room was afterwards constructed, which was taken from one of the moneyer's offices, for the use of the chief engraver: this room was also occupied by Mr. Pistrucci during the time that he performed the duties of that office, and it still continues in his possession, although he has done nothing whatever for the coinage of the kingdom since the year 1822, a period of 14 years. This work-room, however, is situated at a considerable distance from the die department, and is not, therefore, well adapted for the use of the chief engraver.

(A.)
Royal Mint.

Appendix, No. 6.
Mr. Wyon's Report.

Under these disadvantageous circumstances, I have nevertheless performed all the duties of the office of chief engraver, and without any room being assigned to me for that purpose, although it is expressly stated in the Mint regulations of the duties of the chief engraver, "that he shall not work, or make, or engrave any puncheons, matrices, dies or stamps for the making or coining of money, but only in such places as shall have been assigned thereunto."

The only resource left to me has been to give up a considerable part of my dwelling-house, which is the smallest of the three originally appropriated to the engravers for public work-rooms, where, amidst casts, machinery, cabinets, dies and tools of all kinds, besides beds and furniture requisite for domestic purposes, to which the rooms are also necessarily appropriated, the dies for the coin of the realm are engraven; whilst under similar disadvantages, studies in the higher departments of the art—studies from living models, and modelling upon a large scale, which are essentially necessary to give freedom and breadth of style, are obliged to be pursued, and consequently with great inconvenience for want of space. I beg also to state the personal and domestic inconvenience of having my house from top to bottom a thoroughfare for workmen carrying the dies backwards and forwards; the dirt and noise which is thus caused is more especially felt during the illness of any part of my family, being, in short, an entire deprivation of all domestic privacy, and the only house in the Mint subject to such an annoyance.

I would, therefore, press upon your consideration, as Master of the Mint, the absolute necessity of providing for the better security of the dies, for it must be obvious how serious the evil would be if any of the original matrices or puncheons should be stolen, as we know that if one of these dies should fall into the hands of a counterfeiter, he could make coins so like those of the Mint as to defy detection, so far as regards the workmanship; and yet, notwithstanding this imminent danger, these important dies are kept in a private dwelling during the time of engraving and lettering, constantly offering the temptation to my domestic servants and the workmen carrying them from the house to abstract them; whereas, if a proper office was provided, where none but those whose duties gave them the right of access, all these apprehensions would be obviated.

I therefore respectfully venture to recommend to your consideration the plan which was prepared by the Board of Works for erecting additional rooms over the die offices, in pursuance of the directions given by Lord Auckland, and which plan was afterwards in like manner recommended by his Lordship's successor, Mr. Abercrombie, in a letter to the Lords of the Treasury. If these additional rooms were so erected, I am decidedly of opinion that the public service would be benefited, as they would not only give the accommodation required by the chief engraver for arranging all the necessary models and objects of his art, and especially the machinery which has lately been found to give facilities in working the dies, but also would enable this officer to be close to the die offices, where his presence is continually required, and over which he is bound to exercise a supervision; but above all, they would warrant that absolute security to the dies which so highly affects the public interest, and wholly remove the incessant anxiety which attends their deposit in a private dwelling.

I also beg leave to advert to another circumstance of some moment. At present the chief engraver has no control whatever over the second engraver; the consequance is, that the dies frequently do not correspond in many particulars that are very necessary to the perfection of the coinage, and it becomes a matter of difficulty to decide where the fault lies. This imperfection would easily be remedied by giving the chief engraver the entire direction, and consequently making him responsible to the Master of the Mint for the due execution of the dies, whilst at the same time this arrangement would only be a return to the original regulations of the Mint, and which were in operation when I entered upon the office of second engraver.

Allow me also to state that I think some provision ought to be made for establishing such a school of art as to insure a succession of competent officers in the engraving department.

Permit me further to call your attention to another alteration which, after much consideration and the experience of twenty years, I humbly think requisite for the better regulation of the die department. At present, after the engraver has employed his time and talents in the execution of the original matrices, (which in some instances have occupied the labour of months, and which may have received the sanction of His Majesty and the Government,) they are confided to the hands of workmen to harden, multiply and polish the dies from them, who may, either from want of skill, carelessness, or worse motives, materially injure or even destroy the labour of the artist.

Yet, according to the present arrangement, the chief engraver has not even a voice as to the competency of the men who are selected, or any direct control ever them. It will probably be admitted, that the artist who has executed the originals must be the best judge of the justice done to his own works; and it appears to have been considered formerly in this view, as I have been informed that the men thus employed were called "smiths' assistants to the chief engraver."

In making these comments upon the die department I trust that I shall not be considered as attaching the slightest imputation to the present highly respected clerk of the irons, who, I am persuaded, would feel pleasure at all times in affording every facility in his power, as he has done hitherto; and I only mention them with a view to the better regulation of the department in future; as I cannot but think, that control should be given to him from whom

whom fidelity and responsibility are expected, and that he should not be dependent upon the kindness and co-operation of an individual, who though, as in the present instance, affording every assistance in his power, might, if not friendly disposed, thwart the chief engraver, and materially obstruct the public service.

In conclusion, I am particularly anxious to draw your attention to the great reduction which has been made in the salary of the chief engraver since the date of my appointment, and I would especially refer you to the report of Lord Maryborough to the Privy Council, upon the coin in 1815, in which his lordship observes, "that in order to encourage an artist of eminence to work in the Royal Mint, he had fixed the salary at 500 *l.* per annum, which he had been informed was very moderate for first-rate artists of this description, and much less than had been given on former occasions."

In any mention of myself, I would not presume to speak but with the greatest humility, but if the present coinage should be found to bear competition with that of any other European nation, can it be considered a fair encouragement or due act of justice to allow the chief engraver 350 *l.* a year only, and to withhold for an indefinite period 150 *l.* from a salary which had been enjoyed by my predecessors, and which Lord Maryborough, with the concurrence of the Lords of the Treasury, deemed moderate for a competent artist?

I have, &c.

William Wyon.

Royal Mint, 1 March 1837.

— Appendix, No. 7. —

REPORT of the Provost and Company of Moneyers to the Right Hon. *H. Labouchere*, Master and Worker of H. M. Mint, &c. &c. &c.

Sir, Moneyers' Office, Royal Mint, 19 Nov. 1836.

In conformity with your wishes relating to a proposed examination of the whole establishment of the Mint, that the company of moneyers should prepare a report, suggesting any alteration in their department that might tend to facilitate the coinage, and thereby promote the public service; the provost and company of moneyers having given the subject of your communication their best consideration, beg to assure you of their regret at being unable to point out any practicable means by which such alteration may be effected.

As it is not possible so to adjust the wants of the public that a certain quantity of coin should be required every year, or, were it so, to give the moneyers the privilege of manufacturing that quantity as speedily as their machinery could accomplish, and as the present and peculiar accuracy of the monies is considered indispensable, the moneyers see not how any alteration can be effected in their department so as to enable them to undertake their part of the contract for the coinage at lower than the present prices; and should it appear upon a full investigation that nothing can be done to relieve the moneyers of their present heavy incumbrances, they trust that the prices now paid to them will not be considered more than a fair remuneration for their great responsibility and labour, more particularly as it will be shown by the following brief statement of their comparative condition formerly and now, that their profits upon any coinage they may be called upon to execute are materially diminished.

By referring to the method in practice at the old Mint, of rolling the bars required for the different monies, and the little trouble necessary to adjust them previous to their being cut out, and the trifling expense attending all the subsequent operation, and by comparing that plan with the tedious and expensive operations now in use necessary to produce the accuracy required, it must be admitted that the moneyers, on their introduction to the present Mint, were called upon to bear a very heavy additional burden and responsibility. It must be remembered, too, that the establishment at the old Mint was necessarily small; no artificers or engineers were required to work the trifling machinery during a coinage; no smiths or labourers of any description were necessary to look after it during a recess. The doors were locked, and the moneyers were not subject to the smallest expense.

On removal to the present Mint the moneyers found most extensive machinery, and so directly different to that which had been in use at the old Mint, that it was by the greatest perseverance and serious sacrifice of property they were at length enabled to make it applicable to its purpose. A great difficulty and consequent expense now arose from the alteration in the remedy allowed upon the pound Troy, which was reduced by the indenture of 1815 from $\frac{1}{6}$ of a carat to 12 grains on the gold monies, and from 48 grains to 24 grains on the silver monies, so that the cost to the moneyers of manufacturing the coin from that time (independent of the working the machinery, the payment of artificers' wages, &c.) has been increased in a very high ratio, the moneyers now undertaking to keep in repair and fit for

(A.)
Royal Mint.

Appendix, No. 7.
Moneyers' Report.

immediate use the steam-engines, all machinery, furnaces, &c., which at the old Mint were not only erected, but kept in repair by the Government. By the same indenture (1815) the moneyers were deprived of 100 *l.* per annum, which from a very early period had been allowed them for furnishing the necessary tools. Several workmen (exclusive of artificers), and paid wholly by the moneyers, are now constantly employed, when the Mint is not at work, to keep in order the machinery, at such time the moneyers not being in the receipt of any emolument, so that they are now subject to a heavy annual expense, from which at the old Mint they were entirely free. At the same time it was deemed advisable to make an alteration in the denomination and weight of the gold monies, which subjected the moneyers to an increase of labour, amounting to 4 ¾ per cent. A change also in the standard of silver monies took place, by which additional labour to the amount of 6 per cent. was imposed, and notwithstanding these and other heavy expenses which the moneyers were now for the first time called upon to bear, no addition to the prices for coining, which they had received from 1770, was allowed.

There is one other circumstance to which the moneyers beg to call your attention, and which they can but consider a serious hardship.

It having been ascertained by long experience that it was impossible, by the process of rolling, to produce that accuracy and uniformity in the coins of gold and silver that a country so advanced in mechanical knowledge should issue from its Mint, a draw-bench was introduced, and after numerous expensive experiments for two years, in conjunction with its inventor (the late Sir J. Barton), made solely at the cost of the moneyers, to which they were urged by the promise of the then Master of the Mint, "that they should have the full benefit of any advantage that might be derived from it," the machine was found capable, with additional labour and care in the previous operation of rolling, of producing that uniformity in the monies which was considered essential, and which, it is universally allowed, is highly creditable to the Mint, and from which it is presumed the public derive some benefit.

We trust, Sir, you will not be surprised at the moneyers feeling themselves aggrieved when they were called upon to pay a tax of 2 *l.* per cent. upon the amount of their bill for the use of that machine which but for their exertions and practical experience could not have been brought to its present state of comparative perfection; and while the additional labour necessary to produce the same quantity of coin as from the old method of rolling was entirely lost sight of, the advantages to be derived from the use of the draw-bench were very much overrated, and the tax which was imposed under such extraordinary circumstances, it must be borne in mind, is exacted at this day.

The moneyers cannot conclude without reminding you that the consequence of the additional number of labourers, and the necessary admission within the walls of any stranger mentioning the name of a resident, of their greater liability than formerly to peculation, which in the year generally amounts to a very large sum, independent of more daring robberies, one of which, to the amount of 2,804 sovereigns, was perpetrated no longer ago than 9th January 1830.

From the foregoing statement it will appear, that although the prices paid to the moneyers are the same, their profits upon any coinage they may be called upon to execute are materially diminished.

The moneyers, therefore, confidently submit this report to your consideration, in the hope that the prices paid for coining in 1770, and which have not been thought too high during the different investigations of the Mint since that period (the result of which inquiries has always proved highly honourable and creditable to the moneyers), will not be considered more than a fair remuneration for their responsibility and labour now that they are burthened with so many heavy additional expenses.

I am, &c.

For the Provost and Company of Moneyers,

Richard Franklyn, Provost.

— Appendix, No. 8. —

Appendix, No. 8.
Report on the Melting and Refining Departments.

REPORT rendered to the Right Honourable *Henry Labouchere* on the State of the MELTING and REFINING DEPARTMENTS.

Sir, Royal Mint, 1 March 1837.

In reply to your letter of the 26th August, wherein you inquire whether I can suggest any alterations for the better carrying on the business of my department, I beg to inform you, that after the fullest consideration, I find myself unable to recommend any alteration which could be fairly termed an improvement. On the contrary, I think that the existing system is peculiarly well qualified, in all its parts, to do the public work safely, expeditiously and perfectly.

In regard to a plan suggested by Mr. Barton, of substituting payments on account of stopped pots for the alloy, sometimes added to scissel pots, my right to which he questioned, but which Lord Ashburton's Minute confirms, for the time being all I need say is, that, to my humble judgment, it appears unnecessary, and may prove unjust.

I took my contract as I found it, for better for worse, upon the understanding that the practice of my predecessors should be my rule and guide.

Mr. Morrison and Mr. Mushet both enjoyed this advantage, if it be one, subject to the contingency of re-melting stopped pots at their own expense, or re-combining them at the discretion of the King's assayer.

I never calculated, until lately, the loss or gain of the ancient practice. I took it as I found it; but upon contrasting it with Mr. Barton's new plan, I find that if his had been acted upon since my accession to office, the difference would have been about 60*l.* Whether this would be the same hereafter I cannot tell, neither can he. The gain or loss to the public would be a matter of speculation; but one thing is certain, namely, that if the public gained considerably, it must be at my expense; for the chief cause of adding alloy to scissel, is to meet the refinement caused by oxidation of the copper. That refinement varies exceedingly; some combinations of metal are more liable to refinement than others, and much depends on skill in melting.

In one coinage, therefore, you might have to pay for a great many stopped pots, and yet gain very little alloy, my waste being also light; and in another, when my waste was excessive, the Government would, in fact, be making a profit out of my losses.

The ancient practice appears to me far more equable and consistent with the spirit of our contract.

If irregularities occur in the combination, the melter corrects them on the authority of the King's assayer, and the public incur no risk or expense whatever. If extraordinary refinement and consequently extra waste occur, he is in a slight degree compensated by the alloy added. What can be fairer than such an arrangement?

In regard to the quantity of alloy added, the practice of the last eight years shows that it is not large *, and to obviate any possibility of collusion between the assayer and melting department, a surveyor, who acts in lieu of the comptrollor, weighs the alloy, and accounts for it to the Mint Office.

* Alloy added to gold:

lbs.	oz.	dwts.	grs.
2	6	12	7

Alloy added to silver:

lbs.	oz.	dwt.
110	5	1

What security greater than this can the public have for the integrity of the standard?

There is one more point to consider, namely, as regards delay.

I have always held that rapidity is one great essential in a mint; and when pots are stopped by the King's assayer, I see no reason whatever why he should not give immediate directions for re-melting them, either by combination together, or with scissel. This was the ancient practice and the best for the public, in my humble opinion; but according to Mr. Barton's plan the ingots must be weighed and re-weighed through the office, and new assays made, and the cause of the stoppage ascertained, and public business impeded at the moment when it ought to be facilitated.

Suppose a pressure on the Bank for gold, or a vessel wanting to sail with colonial silver forthwith; melters and moneyers are pressed to the uttermost, and every day, nay every hour is important. Must deliveries be then delayed, in order that stopped pots may be rectified by a circuitous process, when one equally safe and quicker has been acted upon from time immemorial?

I confess that setting aside all profit and loss, I think Mr. Barton's plan very objectionable on this latter ground only; and I have reason to think that both Mr. Morrison and Mr. Bingley could, if referred to, give a preference to the ancient practice.

I now beg to make a few observations upon the state of my office generally.

It has been supposed by some, that because my predecessor was enabled by skill and industry to amass large profits at one period, the contract between the Government and me might be reduced with propriety.

I answer, in the first place, that the transition from a paper to a metallic currency, and the re-melting the old coin, is an event, *per se*, which can never again be paralleled. The wear

(A.)
ROYAL MINT.

Appendix, No. 8.
Report on the Melting and Refining Departments.

and tear of an established currency, and its entire fabrication *de novo*, are cases altogether different; and in regard to that very wear and tear, the means which, through my instrumentality, have been taken to prevent the refinement of sovereigns in Paris, must operate *pro tanto* to diminish the future demand for coinage; so that in proportion as Government has thereby saved expense, the emoluments of other contracting parties have become indirectly reduced.

There is likewise another strong point of difference between my position now, and that of my predecessor, namely, that at the period when he was employed by Government to refine on a very large scale, by the old process, no account was taken, either in the Mint or Bank, or London market generally, of what are now called parting bars. He was, therefore, not only paid upwards of 40,000 *l.* during 10 years for refining coarse gold and silver to make standard, but enjoyed the benefit of whatever silver might have been contained in the one, or of gold in the other.

By an old account alluded to in my report to Lord Auckland, of 28th September 1831, I have estimated the silver alone thus clearly gained at 5,000 *l.*; but the result of my subsequent experience would lead me to believe that it was far more considerable.

In regard to the gold, I have no data to compute it by; but I know that in 1830 the Bank had silver bars, not assayed for gold by the original sellers; many of which were so rich as to yield an enormous profit; and all those who knew this important fact at an earlier period, before it became notorious, had opportunities of profiting by it to a very great extent.

Under similar circumstances, therefore, I now undertake to pay Government a premium for that which formerly constituted a source of profit in my department; and Government are thus clearly in a far more favourable position than when Lord Maryborough contracted with Mr. Mushet.

I will now contrast the allowance made to me for melting, for coinage, with the prices of the trade.

I receive 10 *d.* per lb. weight on all sovereigns, and 2 $\frac{1}{3}$ *d.* for half-crowns; other prices in proportion.

For this I melt the metal twice over; once in ingots and again in scissell, after the blank pieces have been cut out.

I run all risks of loss by peculation, oxidation (except when compensated by alloy added to scissel), and manipulation.

I keep the furnaces in repair, and the machinery; and pay for my own clerks, workmen, fuel, pots and implements of every description.

I maintain an establishment always ready; and stock in hand always available at two or three days' notice.

I never know before hand whether a coinage will be great or small; and nothing can be more uncertain than the demands of the public.

I have no fixed office hours, but am ready at all hours, early and late, by night as well as by day, and at every season of the year. The usual time is from six to six.

The trade price, once 8 *d.*, for melting gold, is now 6 *d.* per pound; and for silver, it used to be 25 *s.* per 100 lbs., and is now 18 *s.*, or from 3 *d.* to 2 $\frac{1}{8}$ per lb.

The lowest of these prices for melting once, compared with mine, therefore, for melting the same metal twice, is as 12 *d.* to 10 *d.*, and 4 $\frac{1}{4}$ *d.* to 2 $\frac{1}{8}$ *d.*; but as the trade, in making this charge, leave all waste in melting to be borne by the merchant, and make no allowance for the absorption of metal in the pots (which they recover to their own profit ultimately) the difference between our prices is in fact still greater than it appears.

The only expense, on the other hand, which they incur, and from which I am saved by my contract, is for the rental of premises. On the whole, therefore, my prices may be said to be at least one-sixth less than the present trade price for gold, and one-half for silver.

Surely this cannot be deemed a disadvantageous contract for Government. The fact is, that with regard to silver, subject as it is to great waste, the prices paid me are inadequate, and if taken by itself, I fear the contract would be a losing one.

Upon these grounds I deprecate, on the part of the public, as well as for my own sake, any reduction.

I cannot think that it would be creditable to drive so hard a bargain with a public officer, who has hitherto served you zealously, as to render his business a sort of speculation, with great risks and little or no profit. Still less desirable should I think it for Government to engage in such a speculation on its own account under the management of salaried officers. If they were not responsible to the Master of the Mint, he would be in constant jeopardy; and if they were made responsible, singly or collectively, they ought to receive much larger appointments than gentlemen who incur no such risks. That they occasion great anxiety and trouble must be obvious, when you consider that 100,000 *l.* sterling, or even 200,000 *l.* may require fusion in a single day, subject to all the casualties arising from want of skill in workmen, or carelessness, or dishonesty in the midst of many temptations and facilities for abstraction.

I do not think that Government could maintain an effective establishment of this nature for less than 2,000 *l.* per annum. Busy or not busy, this would always be required, and often a much larger amount.

Upon this plan the expenses of melting could never be exactly defined. They would vary according to the prices of the day, and the skill or zeal of the manager. It is very difficult for Government to avoid paying more than individuals for everything, unless they contract, and then you revert to the old principle; but for one contractor you will have several.

The cheapest articles are nevertheless often the dearest in the end; and a batch of bad pots might not only seriously impede the progress of work, but occasion great extra waste of metal.

I should

I should be sorry to think that a salary in lieu of profits would occasion neglect of duty; but my experience would lead me to testify generally, that identity of interest sharpens wit, and provokes exertion in most kinds of business. I give profits, therefore, proportionate to their work, to those whom I employ as well as salaries, and, if I find this to be the best plan, how much more ought Government? Indeed, so strong is my opinion in this respect, that instead of extending the salaried system, I should rather recommend the remuneration of other Mint officers, with some degree of reference to business; I think it would facilitate dispatch, more than any official regulations can do; and I say this without the lest disparagement to the zeal or activity of those concerned.

The above considerations are those which come uppermost in my mind, with reference to the contract system generally, but in the refining branch of my department, I regard its operations as still more advantageous to the public. In old times, previously to its adoption, the Mint was obliged to have recourse to strangers outside its walls; no opportunity was afforded for improvement in chemical art; no inducement was held out to men of talent or ambition to render scientific discovery a source of public economy.

Mr. Morrison, I believe, was the first who, actuated by this honourable spirit, sought to extend his sphere of usefulness. He had heard of the improvement made in iron castings, and he set about experiments for their application to silver meltings, at his own expense. He sought for practical talent in aid of his researches, and he found it in my predecessor, Mr. Mushet, a gentleman too well known to require my humble eulogy, and whose talents were only equalled by his indefatigable industry. But what was the result of their labours? Why that Lord Maryborough was enabled to contract for silver meltings at a lower rate than heretofore, and the public reaped the benefit of a system which called forth every latent energy of its functionaries.

In the spring of 1828, I had the honour of succeeding to the office, and very different certainly were my feelings from those which would have been suggested by a common salaried appointment, without any hope beyond that of drudging on as a sort of upper workman for the remainder of my days.

My ambition was stimulated by the example of my predecessors, and by the injunctions of your predecessor, the then master, Mr. Herries, who urged me to embark heart and soul in the business, and never to rest until I had made such public improvements as might justify his choice.

In the spring of 1829, the Bank of England suggested the opening of which I speedily availed myself, towards a change in the process of refining. The history of the reforms then made is detailed in a variety of documents, to which I now refer with unmingled satisfaction, as a testimony to the beneficial working of the contract system.

When Lord Auckland succeeded Mr. Herries, his impressions were, as Mr. Morrison can inform you, decidedly unfavourable to my new undertaking.

For two long years my claim to success was questioned, and it was not till after the fullest and most cautious investigation that Lord Auckland recommended for adoption the plan now acted upon, as the best for the public interests.

That plan was confirmed by the Treasury (the present Chancellor of the Exchequer being then joint Secretary), less than four years ago, and has been acted upon ever since, although the unfavourable state of exchange, and the drain of bullion out of the country, renders my sphere of usefulness under present circumstances comparatively limited. There is, moreover, another reason, of which my establishment is in a main degree the cause, although others derive the benefit, namely, that since I have explored in London a vein of industry heretofore confined to Paris, the competition for parting bars has been much greater, and the premium paid for them much higher.

When I began business, bars of gold were sold almost without reference to any silver which they might contain; and eight grains of gold, or two per cent. in value, was the allowance on silver parting bars.

The difference between my price and that paid in the market was a profit to the holder of bullion, who refined it, and amounted at first to about one per cent. on each transaction.

Competition has increased the demand for such bars here, and lowered the refining prices there, insomuch that five grains only, instead of eight, or ten-pence per pound, are now the allowance, and this difference is gained by the South American Mining Companies, or by other remitters of bullion.

This change, although a gain to the trading community, and useful in counteracting the undue exportation of silver, tends nevertheless to check refining operations in London, by rendering them less profitable.

In regard to silver purchased by Government, I am prepared to show, that a very considerable saving might be effected, almost sufficient to cover the expenses of the melting department, provided it were possible to apply the refining process on every occaion.

One obstacle to such an arrangement consists in the delay, which is more or less unavoidable, in all refining transactions; but supposing it were possible for Government to appropriate some fund for such a purpose, by keeping a moderate stock of silver always on hand, they would be able to make purchases from time to time, as good opportunities occurred, without influencing the price of the market, (a liability to which all sudden demands now expose them), and they might select such bars as would yield a profit by their refinement and conversion into coin.

I think I could undertake to insure a saving of one quarter per cent. upon every transaction if such a principle were acted upon, not partially, as at present, but universally.

In regard to the gold coinage, a fund was, as you are aware, made applicable to the public

 service,

(A.)
ROYAL MINT.

Appendix, No. 8.
Report on the Melting and Refining Departments.

service, in 1829 and 1830, by Mr. Herries, with the sanction of the Lords Commissioners of His Majesty's Treasury.

Under this arrangement, the mercantile public benefited, inasmuch as, without delay or loss of interest, they obtained a better price than the Bank gave for their bullion, and the circulation was increased to meet the withdrawal of country bank notes in a beneficial ratio.

At present, the length of time that must unavoidably elapse before the bullion brought into the Mint can be delivered to the importer in the shape of coin, has the practical effect of making the Bank of England almost the only importers for the gold coinage.

I hope, Sir, you will not deem me presumptuous in offering these suggestions, because they extend a little beyond the range of my department; but I cannot help feeling that the motive and consequences of my agreement with Lord Auckland of July 1833, would be imperfectly understood, unless I explained how Government, by availing themselves of my humble services, will benefit the public to a greater extent than they could do by setting aside the contract system in my department.

Having alluded to a variety of documents illustrative of this subject, I think it right to specify them, with a short analysis of their contents.

They are as follow:

1. Report from the Refiner of the Mint to Lord Auckland, respecting the New Process.—28 September 1831.

2. Mr. Morrison's Letter to Mr. Herries.—21 October 1831.

3. Mr. Herries's Letter, testifying to the public utility of the New Process.—10 November 1831.

4. The Correspondence between Mr. Morrison and the Governor of the Bank, explaining its importance to the Gold Coinage, and to the due regulation of the Exchanges.—7 September 1831.

5. The Second Report of the Refiner to Lord Auckland, suggesting a Plan for carrying on the business; with reasons for its adoption.—24 December 1831.

6. Lord Auckland's Report to the Treasury, recommending the establishment of the New System, upon the basis suggested by the Refiner.—1 January 1832.

7. Lord Auckland's Letter to the Governor of the Bank, of 5 December 1831, referred to in the above Report.

8. The Governor of the Bank's Answer to the Three Queries of Lord Auckland, wherein the Court of Directors state,

1. That no private establishment exists to which extensive operations could be confided, with the same readiness and security as to that which exists in the Mint.

2. That the practice of separating the metals abroad, has had the effect of giving an advantage to their export, both as coin and bullion, over general articles of commerce.

3. That with a view to a due regulation of the exchanges, and of the currency, rather than to a mere calculation of profit and loss, it would be the inclination of the Bank to apply the process of refining to their future purchases of the precious metals.

9. Lord Auckland's Letter to the Bank, explanatory of his intention to place the refinery upon a permanent footing, and claiming their concurrence.—30 March 1833.

10. The agreement concluded between Lord Auckland and the Refiner, under the sanction of the Treasury.—July 1833.

The only point, in conclusion, to which I need direct your attention, relates to the principle upon which it is founded in a pecuniary point of view; namely, that the refiner bears all the responsibilty, and yet affords Government a beneficial interest in every transaction.

When refining for coinage, in order to preserve a due standard, he receives one-sixth less than his predecessor, and whenever a re-coinage should become necessary, as is already in part the case, the wear and tear upon old sixpences and shillings having become excessive, he leaves the Master of the Mint to make such rates from time to time, as he deems most advantageous for the public interest.

According to Lord Auckland's last agreement for old silver coin, the value allowed by me, together with other savings of assays, &c., amounts to rather more than one-fourth per cent., and in fact the returns of the refinery cover all the expenses of my melting contract.

In regard to gold, no re-coinage having as yet arisen, the price remains undetermined; but I am prepared to state as a general proposition, that the silver contained in old sovereigns, which may be known by their whiteness, would equally enable me to save Government all the expenses of my melting contract.

Here then is a clear source of present and future economy pointed out by Lord Auckland for permanent adoption, and approved of by the Treasury upon public principles, with the concurrence of the Bank, in July 1833.

If coinages be small, and the amount of bullion in this country small, as it unfortunately has been almost ever since that period, the advantage cannot appear so great, in its immediate results, as might otherwise have been the case. Let the tide, however, once turn, and operations on a large scale recommence, I cannot doubt but that the more the resources of the present system are developed, the greater will be the saving to the Mint as regards coinage, and to the public generally as regards the sale and purchase of their bullion.

Trusting that the considerations which I have thus had the honour of laying before you will be received with indulgence, and judged of with your usual equitable discrimination,

I have, &c.
(signed) *G. F. Mathison.*

DOCUMENTS referred to by the Melter and Refiner in his Report to the Master of the Mint, 1837.

(A.)
ROYAL MINT

Appendix, No. 8.
Report on the Melting and Refining Departments.

(No. 1.)

REPORT from the Refiner of the Mint to Lord *Auckland*, respecting the New Process.

My Lord, Royal Mint, 28 September 1831.

In the early part of the year 1829 I was informed by the late Master of the Mint, Mr. Herries, that a representation had been made to him, through Mr. Goulburn, on the part of the Governor of the Bank, respecting the gold coinage.

It was intimated, that in consequence of improvements which had been adopted in France in the art of refining gold and silver bullion (whereby the usual expense of parting the two metals has been exceedingly diminished), an inducement had been afforded for the exportation of coin of the realm in preference to fine gold bars, whenever the state of the exchange occasioned such an exportation.

The extent to which this practice had been carried, and the extra expense to Government incurred by the re-coinage of fine gold bars, the produce of sovereigns refined at Paris, cannot be exactly ascertained; but as all guineas which had been converted into sovereigns were known to contain sufficient silver to render its extraction profitable, the amount of guinea gold coined since the year 1817 afforded no bad criterion of the risk, to say the least, if not positive diminution, to which such a currency was subject.

An account hereto annexed (No. 1) contains the amount in question,* by which it will be perceived that upwards of one million sterling had been coined in the autumn of the year 1828 and the spring of 1829, about the period of this communication. No. 1. * £.7,454,553. 4. 6.

In the year 1825, the year of the Panic, and in 1826, the amount was still more considerable, new guineas having been re-coined as sovereigns, and circulated to meet the exigencies of the moment, with unexampled rapidity; and it is a fact well known among bullion merchants, that at this very season of commercial danger a notable proportion of the said coin passed fresh from the Mint into the French refiners' hands, and then back again to the Mint for re-coinage.

In the account marked (No. 2.) will be seen the result of an experiment made in 1829 by the late Governor of the Bank, which proved that, if compared with the result of exporting fine bar gold, at the same period, a positive advantage lay on the side of sovereigns. No. 2.

Such was the substance of the information communicated to Mr. Herries; and upon the public grounds herein stated, he directed my attention in the most serious manner to the improvement of the refining art, as practised in my department.

He observed that the Mint had been established at a great expense for a great national object, viz. that of insuring to the public the most perfect coinage and the most effectual perpetuation of it which Government could direct, and whilst in all mechanical parts we stood confessedly superior to any similar establishment, it seemed to him not only inconsistent but discreditable that the refining branch, with which I had the honour to be more immediately connected, was as remarkably behindhand with the course of improvement in other countries. He urged me, therefore, in the strongest manner, to acquire by every means in my power the necessary information, so as to render any and every service connected with my department which could be executed in other countries.

The result of my first inquiries was very disheartening; I could hear of no English chemist who was acquainted with the process in question, and no English refiner had ever practised it; no description of it had ever been published.

In Paris, the secret (for such it was considered) lay among few persons, and no precautions were spared to prevent it from becoming known, especially to Englishmen. I was about to proceed to Paris, when an accidental circumstance facilitated my inquiries. A French attorney called at the Mint, and left a written statement in the hands of Mr. Morrison on this very subject. Mr. Morrison referred him to me, and I ascertained that one of the persons who had been employed in a French refinery, recently established in the Kent-road, and who had been discharged in the ordinary course of business, was solicitous of employment in the Mint.

I readily availed myself of his services, with Mr. Herries's sanction, and the results of the experiments, which we made together on a very small scale, emboldened me to believe, that if tried on a larger scale, the result would prove equally satisfactory. To do this, however, it was necessary to incur an expense of at least 1,000 *l.*; and as I had no certain knowledge or experience to direct me, I perceived the difficulty of obtaining a grant of public money for what must be termed experimental purposes.

The Mint-office could not make it without an authority from the Treasury, and although the establishment of the refining process, used by my predecessor, Mr. Mushet, by a Treasury grant, might have been pleaded as a precedent, there was this important distinction between the two cases, viz. that he sought to apply a well-known process to the public service, I, to find out whether one hitherto unknown could or could not be rendered applicable. I myself deemed success very doubtful, and there were not wanting those who predicted failure.

Just at this time some of the parties concerned in the French refining already alluded to, called upon me, and represented in strong terms the risk which would be run.

They represented the person whom I had taken into employment as unacquainted with the nicer details of the process, although of unexceptionable character; and they advised,

(A.)
ROYAL MINT.

Appendix, No. 8.
Report on the Melting and Refining Departments.

that instead of incurring all these risks, I should carry into effect the views of Government through their instrumentality.

To such a proposal, even had I entertained it, there were public objections sufficiently obvious.

I therefore persevered in my original course, and to obviate the difficulty which the question of a grant of public money would create, I adopted the following method: I volunteered to make all necessary advances, in the first instance, at my own private risk and responsibility; so that if the experiment failed, I alone could sustain any loss (which possible loss I computed at 500 *l.* or 600 *l.*), and I left it to Government to take such advantage of my success as the Master of the Mint might afterwards deem expedient.

Mr. Herries having by a verbal communication sanctioned this proposal, the works were commenced in the month of March 1829, and established on a small experimental scale, with the least possible delay.

I then made an application to the Mint office, for the use of such gold and silver bullion as was in their custody, in order that the process might be fairly tried, and its merits ascertained.

I found, however, that the accustomed routine of official duty opposed obstacles to the proceeding, and I was consequently advised to apply to the Bank and other great bullion importers, in order that the gold might be refined before and not after its importation for coinage.

I acquiesced, though not without considerable reluctance, in this departure from my original views.

As an individual, hitherto unknown out of the Mint, I felt in the first instance unwilling to solicit or incur such responsibility, but as the undertaking could not otherwise be so far prosecuted as to prove its success or failure, I was authorized by Mr. Herries to make an application on the subject to the Bank of England. The late Governor, Mr. Drewe, expressed satisfaction at my proposal, and 30,000 guineas were brought to the Mint to be refined and coined.

The Mint office undertook for once to make a record of the experiment, and to guarantee the bullion to the Bank, but it was expressly done as an exception to the general rule, and not as a precedent for future adoption.

Under these circumstances, I had no alternative but to relinquish at once the undertaking, or to carry it on upon my own private account, until such time as its success being fully established and appreciated, the Government might avail themselves of the improvement in a manner advantageous to the public service.

The additional expense attendant upon the construction of enlarged works was at the same time undertaken by me, upon the distinct understanding and assurance, that eventually the works would become incorporated with the Mint, and to use an expression contained in a letter of the Mint board, dated 9th October 1829: "that so soon as I was possessed of the proper knowledge, and prepared to enter upon the undertaking, the expense I had incurred might either be repaid to me, or form a consideration in the rate or allowance to be made to me for carrying on the business of the refinery."

With an investment thus secured against future contingencies, I embarked fearlessly in a business, from which, as a mere private undertaking, I should certainly have recoiled with dread; and whilst, nominally, my business might be looked upon as private, inasmuch as it was not carried on through the medium of the Mint-office, I felt conscious that the design of it was public, the present uses of it public, and the ultimate fate of it important to the public, in every point of view.

At the period when the above-named letter was written, in consequence of complaints made by Mr. Wyon and others, my attention was directed to the fumes proceeding from the acid used in the process, and I adopted measures, deemed effectual in Paris, for averting any bad effects.

These measures were sanctioned and approved of by Mr. Herries, and although they are not exactly in accordance with the plan laid down by M. D'Arcet, they correspond with the present practice in the French refineries, so far as I have been able to judge from personal observation.

The refining of guineas for coinage on account of the Bank of England has thus continued with little intermission from April 1829 to the present period; and to show that my undertaking has never been viewed by the Mint office in any other light than as a part of the public service, I need only refer to the printed Return made by order of the House of Commons of the 8th August 1831, which contains an account of guineas melted and refined from 31st December 1829.

No. 3.

This service was, however, for the reasons already stated, performed indirectly rather than directly for the Government, until, in the month of May last, I was authorized by your Lordship, at the instance of the Bank of England, to refine 35,000 *l.* in old sixpences, of which the re-coinage had become necessary.

The actual saving to the Mint office on that transaction has been 92 *l.* 7 *s.* 9 *d.*, or about ¼ per cent. It follows, therefore, that the saving upon the whole of the silver currency, say seven millions, would amount to 18,477 *l.* 10 *s.*, if refined agreeably to the same estimate, instead of being melted down by the old method.

If we refer to past coinages, the amount of saving would have been more considerable.

It appears from Account No. 5, that the sums paid for refining silver by the old process amounted to 30,008 *l.* 10 *s.* 4 *d.*

If this be added, therefore, to the above estimate, it appears that the total saving to the public might have been 48,486 *l.* 0 *s.* 4 *d.*

In regard to the gold coinage, a similar computation produces similar results.

In

In account No. 6, which was drawn up in 1829 for the information of Mr. Herries, the computed saving is 32,784*l.*

No. 6.

That estimate, however, does not include the value of the silver contained in the gold refined during the same period, and which, by a computation drawn from the worseness of the bars in question, extracted from the refiner's books, may be fairly estimated, as in Account No. 7, at 5,090*l.* 14*s.* 3*d.*

No. 7.

Altogether the direct saving which might have accrued to the public since the year 1817, if the new process had then been introduced, would appear at the least equal to 86,360*l.*, independently of the indirect saving and national benefit occasioned by the removal of an alloy, which is shown elsewhere to be detrimental to the coinage.

In France the attention of government has been directed to this important branch of public economy with signal benefit; a saving of 3,600,000 on a recoinage of 600,000,000 francs in silver, or 144,000*l.* on 24,000,000*l.* sterling having been effected.

The difference in proportion between this amount and that estimated by me as attainable, arises from the larger proportion of gold contained in the old six-livre pieces, which were issued long before the process in question had been applied to silver coined in the French mint.

I have thus had the honour to detail, as briefly as the subject will admit,

1st. The original cause of the undertaking, which is corroborated by the Governor of the Bank's late letter of the 7th September:

2dly. The reasons which, to facilitate the views of Government, influenced me in making the first advances for its establishment and conducting it provisionally on my own private account, reasons which Mr. Herries, upon reference, would I am sure confirm, and to which his letter of November 1830 to Mr. Morrison, in formal recognition of the undertaking alludes:

3dly. The understanding which subsisted in regard to their ultimate repayment whenever I could prove the successful application of my processes on a large scale, as shown in the Board's letter of the 9th October 1829:

4thly. The advantages which might have been realized in times to come, and which indirectly (as shown in the printed Return to the House of Commons of 8th August concerning the gold) and directly (as shown in the Minute of the Board, dated 25th May 1831, concerning the siver coinage,) have been already realized under Mr. Herries and your Lordship's administration.

No. 3.

The time, therefore, appears to be now come when the whole subject may be brought under your Lordship's consideration with propriety on my part as the humble instrument of furthering the views of Government, and with advantage, as confidently anticipated, to the public service.

A silver recoinage is understood to be in contemplation, and if, agreeably to the plan which I have already acted upon with success, your Lordship should deem it expedient to sanction a similar proposal on a larger scale, the prospective profits incurred by its adoption would fully and speedily repay the original grant required to carry it into effect.

With regard to the alleged nuisance of the fumes, it is for your Lordship to determine how far an important public work, intimately connected with the coinage of the realm, for which the Mint has been established, should be rendered secondary to private considerations; but if the prosecution of that work appears desirable on the same public grounds upon which it was first undertaken, the extra expense incurred by adopting some change in the construction of the works would surely be justifiable in every point of view.

If, without presumption, I might be allowed to propose a plan (attended too with no very great expense), I think I could safely undertake to remove all reasonable grounds of future complaints among our neighbours.

In conclusion, I must apologize to your Lordship for the length, and what may appear the egotism of this report; but I throw myself with perfect confidence and sincere respect upon your Lordship's favourable consideration; and after showing that benefit and not loss can alone accrue to the public from my undertaking, now proved to be successful, (I alone having incurred the risk of failure), I hope I may be allowed to trust that its completion will be secured, as its establishment was first suggested and promoted, under the protecting hand of Government.

I have, &c.

(signed) *G. F. Mathison.*

(No. 2.)

Mr. *Morrison*'s Letter to Mr. *Herries*, in reference to the REPORT on the REFINERY.

Sir, Mint Office, 21 October 1831.

THE Lords Commissioners of His Majesty's Treasury having directed the Master of the Mint to report to their Lordships upon the subject of a memorial which has been transmitted to their Lordships, representing the injuries sustained by the memorialists in consequence of the refinery established in the Mint by Mr. Mathison; and it appearing to Lord Auckland, in the discussions which have arisen upon the subject, that it was desirable to obtain from Mr. Mathison a statement of the authority under which he has acted in originating and carrying on this undertaking, his Lordship has since received a report from Mr. Mathison, in which he refers to a variety of verbal communications which he alleges to have taken place between yourself and him previous to the commencement, and subsequently in the

progress of the work; but which, not being substantiated by any official records in the Min., I am directed by his Lordship to refer a copy of Mr. Mathison's report to you for your consideration, and to request you will have the goodness to state to Lord Auckland how far the matter contained therein is correct, and whether Mr. Mathison is justified in proceeding with the refinery and carrying on the process in the manner in which it has been conducted under your sanction.

I have, &c.

J. W. Morrison.

P. S.—It would be desirable to know what engagements subsisted between the late Master and Mr. Mathison, as to the expenses and charges; whether upon the adoption of the refinery into the establishment the Government is pledged to reimburse Mr. Mathison for his outlay, or, in case of the refinery being stopped altogether as a nuisance, Mr. Mathison has any claims upon the Government.

(No. 3.)

Mr. *Herries*'s Letter to Mr. *Morrison*, testifying to the public utility of the New Process.

Sir, Albemarle-street, 13 November 1831.

I was absent from London when your letter of the 21st of October was addressed to me; and when, after some delay, it came to my hands, I had no means of reference, during the prosecution of a journey, to any papers or memoranda on the subject to which it related; I could therefore not reply to it till my return.

I have now to acquaint you, for the information of the Master of the Mint, that I have perused with attention the statement from Mr. Mathison which you transmitted to me, and that I have found in it a very accurate and faithful account of the origin and progress of the establishment for the improved method of separating the precious metals at the Mint.

I am bound, in justice to Mr. Mathison, to declare that he has, in no respect, overstated the degree, or misrepresented the nature of the encouragement which he received from me to engage in that new and then difficult undertaking. You are indeed perfectly competent yourself, Sir, to give information to the Master of the Mint on this subject. My communications upon it with you, and with the other principal officers of the Mint at the Board, and on other occasions, were frequent, and, with respect to yourself in particular, upon this as upon all other matters connected with the business of the Mint, without the least reserve.

I concurred originally, and after much reflection I continue to concur, with the Bank of England in opinion, as to the importance of securing the coinage of this country, at the least possible expense and loss to the public, against the depredation to which it was exposed by the new process of refining in the hands of foreigners abroad, and in this country.

I also deemed it to be of importance to render the Mint itself more competent than I found it to be with its large establishment, and its costly machinery, to execute within its own walls all the operations incidental to the preparation of the precious metals for coining, in the event of a sudden or extensive demand upon it.

Mr. Mathison entered with zeal upon the undertaking which I suggested to him. It was not practicable to conclude a specific engagement with him, because it was not possible to foresee whether he would succeed in acquiring a knowledge of the process which the foreign refiners endeavoured to keep strictly secret; nor whether, if that knowledge should be acquired, he would possess the means of executing it with advantage. Without some knowledge, founded upon experience of the profit which might be derived from it, there was no rule for fixing the terms and conditions on which he should be bound to execute any work for the public. Mr. Mathison therefore undertook the business unconditionally; and I always understood from him, that if he failed entirely in making himself master of it, and in rendering it available for the public service, he would not call upon the public for any indemnification.

Such was the spirit in which he advanced his own capital and devoted his time and labour to the prosecution of the experiment! When I left the Mint, I had not yet received any report from him, upon which a definite arrangement might have been concluded; but I had, from time to time, the satisfaction of learning that by his exertions, his skill, and his indefatigable application, he had been completely successful in putting his refinery on a footing of efficiency not inferior to those of France.

The experiment was thus made, and the views of the Bank fully answered, while an important augmentation of skill and power was brought to the Mint without the necessity of any immediate outlay of the public money.

With respect to Mr. Mathison's claim upon the public, on account of his disbursements in buildings and implements, whenever a permanent arrangement is made with him for the continuance of the refinery, or in the possible event of its cessation, on account of altered circumstances or different views on the part of the Government, there can, I presume, be no doubt that he is, in the strictest equity, entitled to a fair and liberal consideration for it, on the principle laid down in the letter of the Board of the 7th of October 1829, referred to in the paper of Mr. Mathison, wherein it is stated, that so soon as he was possessed of a proper knowledge, and prepared to enter upon the undertaking, the expense he had incurred might either be repaid to him, or form a consideration in the rate or allowance to be made to him for carrying on the business of the refinery.

On the subject of the memorial presented to the Treasury respecting the effect of the fumes

fumes of this refinery, as a nuisance to certain persons in the neighbourhood, I am unable to form any opinion; a similar complaint was made while I was Master of the Mint, and Mr. Mathison was then directed to make certain alterations, which it was supposed would be sufficient to remove all grounds of reasonable complaint.

I have, &c.
(signed) *J. C. Herries.*

(No. 4.)

Correspondence between Mr. *Morrison* and the Governor of the Bank, explaining the importance of the New Process.

Sir, Mint Office, 6 September 1831.

I am directed by Lord Auckland to request you will have the goodness to state to me, for his Lordship's information, the opinion of the directors of the Bank of England as to the public benefit derived by the establishment of the new process of refining which has been recently introduced into the Mint, and placed under the conduct of Mr. Mathison by the late Master of the Mint.

His Lordship is anxious to apply to you on the subject, as circumstances have rendered it necessary, should the refinery be continued, that alterations should be effected in the works at a considerable expense; and he understands Mr. Herries was induced to promote the undertaking at the instance of the present and late Governor of the Bank.

I have, &c.
The Governor of the Bank of England, (signed) *J. W. Morrison.*
&c. &c. &c.

Sir, Bank of England, 7 September 1831.

I have to acknowledge the receipt of your letter of the 6th instant, requesting, for the information of Lord Auckland, the opinion of the Court of Directors of the Bank as to the public benefit derived from the new process of refining established at the Mint, his Lordship understanding that Mr. Herries was induced to promote the undertaking at the instance of the late Governor of the Bank and myself.

Having submitted your letter to the Court of Directors, I am desired to acquaint you that they understand the process to have been established for the purpose of gradually removing an excess of value in the gold coinage, arising from the alloy being composed principally of silver, and which rendered it more advantageous to export the coin of the realm than bar gold which had been subjected to the process of refining.

Inasmuch, therefore, as the gold coinage is made more perfect than formerly by the adoption of the process, and the value thereby limited to 3 *l.* 17 *s.* 10½ *d.* per ounce, the Court of Directors are of opinion that the public is benefited to that extent.

In reply to the last paragraph of your letter relating to the part which the late Governor of the Bank and myself are supposed to have taken in promoting the undertaking, I have to mention that in the autumn of 1828, when the foreign exchanges were against the country, we deemed it to be our duty to submit to the Chancellor of the Exchequer (Mr. Goulburn) our opinion of the extra advantage derived by the export of the gold coin then in circulation over bar gold which had undergone the process of refining, and I have reason to suppose that it was in consequence of the opinion so expressed that Mr. Herries was induced to consider the propriety of sanctioning the formation of an establishment at the Mint for separating the metals upon a plan similar to one which had for some years previously been adopted in France.

I have, &c.
J. W. Morrison, Esq. (signed) *J. Horsley Palmer.*
&c. &c. &c.

(No. 5.)

Second Report of the Refiner to Lord *Auckland.*

My Lord, Royal Mint, 24 December 1831.

In the report which I had the honour of addressing to your Lordship, in reply to Mr. Morrison's letter of the 6th September, I stated the public grounds upon which, with a view to rescue our gold currency from the depredation to which it was exposed by foreign improvements in the art of refining the precious metals, I undertook to introduce those improvements into the Mint, at the desire and by the express authority of your Lordship's predecessor.

I stated the understanding upon which, to facilitate the views of Government, I embarked in this undertaking as an officer of the Mint, but at my own risk, when failure was not improbable; in order that, if my efforts should prove successful, the Master of the Mint might be enabled to adopt the new process as a public undertaking.

That understanding (which the Board's letter of the 7th October 1829 shows to have been generally received among the principal officers of the Mint) has been acknowledged, and their impressions confirmed by Mr. Herries, in his answer to Mr. Morrison's letter of the 21st October, whereby he fully bears me out in my assurance, "that whenever a permanent

(A.)
ROYAL MINT.

Appendix, No. 8.
Report on the Melting and Refining Departments.

manent arrangement should be made with me for the continuance of the refinery, or in the event of its cessation, I am in the strictest equity entitled to a fair and liberal consideration for it, upon the principle laid down in the Board's letter of the 7th October 1829."

I waited upon your Lordship, shortly after your receipt of that letter, at the Board of Trade, and you then intimated to me your desire that I should propose a plan to enable Government to make a permanent arrangement with me for the continuance of the refinery.

I inquired whether, as the basis of such a plan, I might take for granted the repayment of my outlay, and assume that the works and utensils belonged to the public; to which inquiry your Lordship answered, that the Government being compromised, I might with propriety assume such repayment as the basis of a permanent arrangement.

In obedience to your Lordship's commands, I then stated that no plan appeared to me so good as that already acted upon, and regulated by a special Minute of Mr. Tierney, whereby, as melter, I am authorized to receive and melt gold coin or bars for individuals on my private account and responsibility; the Government, whose furnaces I employ, retaining 2*d.* per pound weight on all the gold so melted.

At a subsequent interview, with which I was honoured in the Mint, I communicated to your Lordship the circumstances under which a precedent, thus sanctioned by usage and experience, might be extended to the new refining process. I stated the manner in which the business of the refinery had hitherto been conducted; the nature of refining transactions generally; the degrees of profit which belonged to them, and the extent to which that profit might, as I thought, be rescued from the hands of foreigners, and made conducive to British interests.

I observed, that in order to refine gold, the agency of silver was indispensable, and that the latter metal (which, when thus employed, is technically termed water silver) becoming at the same time refined, the united amount of silver extracted from gold, and of gold extracted from silver, rendered the transaction profitable.

I added that the Bank of England, as the greatest purchasers of bullion, were best able to supply the two metals conjointly, in proportionate quantities; but that, when such was not the case, the refiner might, by contract with different parties, render his process useful to the public, at times when a single contracting party could not otherwise be benefited by it.

I remarked, that if the Master of the Mint should undertake to refine gold after it was placed in his custody, the importer would be prejudiced by the delay in the coinage of his bullion, and the expense to Government would be greater than any amount in value of silver extracted, unless they purchased silver at the same time, a proceeding for which the Mint indenture affords no provision, and which, even if expressly authorized by the Treasury, could not always be done with advantage, in consequence of the fluctuating price of silver.

It appeared, therefore, in my humble opinion, advantageous to Government, as well as to the bullion merchant, that the new refining process should be applied by the refiner to bullion on his private account, before it was delivered for coinage; and that by fixing a premium or seignorage on all bullion refined, whether for coinage or for other purposes, the Government, whose only stake and concern would be the interest on capital expended in works, might thereby insure a return commensurate with the amount refined, and free from all risks, charges and deductions whatsoever. I added, that in order to carry to their utmost limit the powers with which I might be intrusted, powers of which the return to the public would vary in amount, according as the present outlay should be maintained stationary or extended to meet extended business, I was prepared, on my side, to extend my establishment of workmen, and to work by night as well as by day, for limited periods, whenever the public service might require it.

In the principle and general outline of this plan, whereby the joint interests of the Government and the bullion holder will be advanced in proportion as they may contribute their capital and their bullion to the undertaking, your Lordship has expressed your inclination to concur.

It remains for me, in obedience to your Lordship's letter of the 5th instant, to embody it in a distinct proposition, which may be laid before the Lords Commissioners of His Majesty's Treasury at the same time that you recommend to their Lordships that the works and utensils should become the property of the public.

The heads of the plan which I would suggest are,

1. That all capital employed in, and essential to the carrying on, of the undertaking be found by Government.

2. That all bullion brought to the Mint to refine should be lodged in the refiner's custody, and accounted for by him to the respective owners, at their risk, without any liability on the part of the Master of the Mint or his officers.

3. That all labour and costs of manufacture, repairs of public works, and other disbursements, for which the refiner is now answerable, be undertaken by him, as in his present contract, to refine for the Government to the same extent, and under the same conditions.

4. That a fixed premium of threepence per pound troy, on all fine gold delivered on account of the refinery, and one-eighth of a penny on all fine silver, not used as water silver, be paid by the refiner to the Master of the Mint, agreeably to a return rendered at the close of every year, dating from the day when the refining works and utensils shall have become public property.

5. That in the event of the refiner's process being applied to bullion, the property of the Crown, there shall be deducted from the trade price, as stated in his present contract, one-third, instead of one-sixth; that being the amount of the present deduction made in consideration of the works and utensils belonging to the Government.

6. That,

6. That, in the event of a re-coinage, or the extensive purchase of bullion on account of Government, the refiner's charges being necessarily dependent upon the relative proportion which the gold and silver to refine may bear to each other, shall be regulated at the time by the Master of the Mint, or by the Lords Commissioners of His Majesty's Treasury.

In order to estimate the advantage of this plan, I have ascertained the amount of bullion to which the process has been in part applied, and to the whole of which it might have been successfully applied by Government during the last three years, a period which was considered by your Lordship as a fair criterion of the future, and of which the latter half has, owing to the state of the exchange, been unfavourable to refining operations.

The amount of gold and silver bullion which has been either refined or coined in an unrefined state, or exported to refine abroad, during the last three years, so far as the same can be traced by the refiner through the Mint and the Bank of England:—

		£.	s.	d.
Gold in coin and bars delivered at the Mint for coinage		4,000,000	–	–
Silver exported in bars		2,000,000	–	–
Old British silver coin melted to export during the present year		565,000	–	–
	£.	6,565,000	–	–
Estimated amount of silver contained in the gold bullion, of which no account was taken in the bullion market		15,000	–	–
Ditto, of gold contained in the silver bullion		40,000	–	–
Ditto, of gold contained in the old British silver coin		5,650	–	–
Total estimated amount which would have been realized in this country if the whole of the above bullion had undergone the new refining process	£.	60,650	–	–
Profit on refining old sixpences in June 1831, which actually has been realized by Government from a specific contract made with the refiner by the Master of the Mint		92	6	8
Profit which might have attended the application of a similar contract, to the whole of the old British silver coin melted this year for exportation		1,412	–	–
Profit which might have accrued to Government from the payment of the premium now proposed to be paid by the refiner, if a permanent arrangement could have been made with him three years ago		1,250	–	–
Charge for refining old guineas imported, worse than standard, into the Mint in 1829, which would have been averted by the application of the new process		68	–	–
Total estimated amount which might have been realized by Government, if the plan now suggested could have been adopted and brought into full operation three years ago	£.	2,822	6	8

There are, however, other pecuniary advantages, to which I alluded in my former Report, and which apply to the three last, as to all preceding years. They may be thus stated:

Expense of recoinage averted from one million and a half of sovereigns coined in the Mint since April 1829; and which, if coined out of unrefined bullion, would have afforded a bonus to the foreign refiner, during the last year and a half of unfavourable exchange, of

		11,200	–	–
Expense of re-coinage, to which the public are, even now, liable, on account of two millions and a half of sovereigns actually coined with an access of value in silver alloy, and which have either been exported or purposely kept out of circulation by the Bank of England during the last year and a half		18,750	–	–
Total expense of re-coinage, which might have been averted,	£.	29,950	–	–

The fact that 2,500,000 *l.* in sovereigns, known to contain such excess of value, are now in the Bank coffers, was stated in conversation by the Governor of the Bank, as he informed me not long since, to the Chancellor of the Exchequer, and he even went so far as to suggest the refining of them in the Mint, in order to prevent their exportation.

Such, then, my Lord, are the expenses to be averted; such the advantages which may be realized, as well by Government as by British merchants and manufacturers, through the medium of this new refining establishment, if carried to its full extent of usefulness.

That the exchanges which suffer from the remittance of bullion or sovereigns to refine abroad, in lieu of other merchandise, will be regulated with benefit to British interests generally by the same operations which protect our gold currency from destruction, is doubtless another strong argument in favour of their continuance.

Towards the attainment of this national object, the Bank of England have signified their inclination to contribute, by applying the refining process to all their future purchases of the precious metals.

The plan of which I have now the honour to propose the permanent extension, has been provisionally applied by me to their service, ever since your Lordship's accession to office.

(A.)
Royal Mint.

Appendix, No. 8.
Report on the Melting and Refining Departments.

The basis alone requires settlement, it having appeared to your Lordship that the execution of a public duty, in a public building, by a public officer, with works not public property, was an anomaly liable to misconstruction, and objectionable on public grounds.

I have shown why, in this undertaking, that anomaly was suggested by me, and applied under the late Master's sanction; the new process being first introduced as an experiment at my expense, to be used as a public undertaking, if it succeeded, at the expense, but for the benefit, of the public.

Your Lordship having been so good as to afford me the assurance that you are satisfied, after strict inquiry, with my conduct, I cannot doubt that the Lords Commissioners of His Majesty's Treasury will concur with your Lordship in any permanent arrangement which you may submit to them, for the continuance of my labours, either in the manner which I have by your desire suggested, or according to any improved plan which your Lordship may recommend.

In conclusion, therefore, I need only add, that no effort shall ever be wanting on my part to carry to their utmost extent such powers, as the Government may devote to refining purposes, with zeal, energy and fidelity as a public servant.

I have, &c.
(signed) *G. D. Mathison.*

(No. 6.)

Lord *Auckland*'s Report to the Treasury, recommending the Establishment of the New System, upon the basis suggested by the Refiner.

Sir, Royal Mint, 1 January 1832.

In answer to the letter of the Lords Commissioners of His Majesty's Treasury of the 9th of August 1831, referring, for the opinion of the officers of the Mint, a memorial from the inhabitants of Rosemary-lane, complaining of nuisance arising from the Royal Mint chimneys, and praying for the removal thereof; I have to request you to inform their Lordships that I directed immediate inquiry to be made into the matter complained of, and it appeared to me that the refinery as constructed and managed was a nuisance injurious to the health and comfort of the surrounding neighbourhood, so much so as to render it necessary either very much to improve or entirely to remove it.

I requested Mr. Brande and Mr. Bingley of the Mint to consult with Mr. Faraday, and to report the alterations which ought to be made, and their probable expense, and I have subsequently communicated with M. Morier, His Majesty's consul-general at Paris, and had the advantage of the opinion of M. D'Arcet, under whose directions the refineries established in the centre of that town have been so constructed and improved as to be, by all report, perfectively inoffensive.

Mr. Faraday, with his usual zeal and ability, applied himself to the subject, and both he and M. D'Arcet have pointed out methods by which in their opinion the nuisance may be corrected.

As the method pointed out by Mr. Faraday, though probably more complete, would lead to a further process of manufacture, and be attended with an expense of 300 *l.* or 400 *l.*, Mr. Mathison has preferred that which was suggested by M. D'Arcet, the expense of which will be trifling, and the alteration is already in progress.

The effect of this nuisance is in some respect aggravated by the smoke of the steam-engines in the Mint, and I propose to consult the Board of Works as to whether their chimneys should not be raised.

I have, however, to submit to their Lordships a question of some difficulty and importance, as to the property of this refinery, the expense incurred in its erection, and the engagements which are supposed to subsist between Mr. Mathison (melter and refiner) and the public.

It appears that in consequence of improvements in the art of refining adopted in France, an inducement was afforded to the exportation of gold coin, for the purpose of melting it, and extracting the silver with which it was combined, and it is notorious that in 1825 and 1826, when guineas were coined into sovereigns to meet the exigencies of the moment, a large portion of the new coin passed at once into the French refiner's hand and back again to the Mint for re-coinage.

Upon these facts, and upon representations in consequence from the Bank of England, the late Master of the Mint called the attention of Mr. Mathison to the state of the refining art as practised in his department, and he in consequence volunteered to make all necessary advances for the purpose of establishing a refinery on the French plan, under an understanding that if the experiment should fail, he alone should sustain the loss, leaving it to the Government to give him such advantages in case of success as the Master of the Mint might subsequently deem expedient. The works were, in consequence, established in 1829, on a small experimental scale, and subsequently enlarged under an express verbal assurance, that eventually they should be incorporated with the Mint, and a letter from the Board was addressed to Mr. Mathison (October 7th, 1829). Stating, "that so soon as he should be possessed of the proper knowledge, and prepared to enter upon the undertaking, the expense he had incurred might either be repaid to him, or form a consideration in the allowance to be made to him for carrying on the business of the refinery.

He has from that period continued to refine bullion principally for the Bank. He has been induced to lay out 3,000 *l.* upon these works, but he feels the uncertain nature of his engagements to bear with some hardship upon him, and he earnestly prays that the subject may be brought

brought under the final consideration of the Government, and I have to request the directions of their Lordships as to the compensation which they may think due to Mr. Mathison, and further as to the arrangement which should be entered into with him.

It is evidently not generally desirable that a manufacture on a private account should be carried on by a public officer in a public establishment, but persons of skill could scarcely be retained on any other principle for the service of the Mint, and the engravers, assay-masters and others are allowed to exercise their callings within its walls.

The refinery itself is of much public importance, and is so considered by the Bank. Its effect is, that one of the most important operations connected with coining is securely carried on within the Mint. It prevents the exportation of the precious metals, either as bullion or coin, for the mere purpose of being manufactured; and no private establishment of the kind at present exists in the country. If, under these circumstances, their Lordships should determine that the refinery is to be continued, and is to become the property of the Crown, I would recommend that an arrangement of the following nature be entered into:

A sum in satisfaction of the expense incurred by Mr. Mathison, shall be repaid to him, and he shall continue to carry on the refinery on his own account, bearing all the expense of manufacture and all risk and responsibility, and engaging to keep the works at least in as good repair as they are at present; and he will pay to the Mint the sum of 3*d.* for every pound of gold refined by him, and a smaller sum upon silver. This engagement will be nearly the same as that under which he has been authorized to receive and melt gold coin or bars for individuals on his private account and responsibility, the Government, whose furnaces he employs, retaining 2*d.* per lb. weight on all the gold so melted.

I understand from him that the intentions of the Bank, as intimated to him, are such as to make it likely that such an arrangement would be beneficial to all parties. But the amount of precious metals requiring to be refined must very much depend upon the rate of exchange.

The sum to be paid to Mr. Mathison in satisfaction of his former expenses will probably amount to 3,000*l.*; but for gold to the amount of every 1,000,000*l.* refined, above 260*l.* will be paid to the Mint, and his present apparatus is sufficient to refine two and a half millions annually. In addition to this, a more direct advantage will arise upon any re-coinage of the silver now in circulation, amounting to about 300*l.* upon every 1,000,000*l.*

I have annexed to this letter, for the information of their Lordships, copies of

1st. The Memorial of Mr. Mathison;
2d. A Letter from the late Master of the Mint;
3d. A Letter from the Governor of the Bank;
4th Mr. Mathison's further Memorial and Proposition.

I have, &c.

Hon. J. Stewart, &c. &c. &c., Treasury. (signed) *Auckland.*

Note.—The proposition contained in Lord Auckland's letter as above was eventually sanctioned by Treasury.

(Nos. 7 & 8.)

Correspondence between Lord *Auckland* and the Governor of the Bank.

Sir, Board of Trade, 5 December 1831.

I have it in immediate contemplation to submit to the consideration of the Lords of His Majesty's Treasury the propriety of a new and specific arrangement with Mr. Mathison upon the subject of the refinery which was, with the sanction of the then Master, established in the Mint in the year 1829; and before I propose to their Lordships that this refinery should become the property of the public, and be continued in operation, I am anxious to obtain through you the opinion of the directors of the Bank upon the effect and utility of this establishment, and of the system which they may be disposed to adopt in regard to it.

The plan to which I am most inclined is, that the refinery should become the property of the public; but, that it should be carried on, as it has been, entirely at the risk and responsibility of the refiner, subject to such arrangement as he may make with the Bank or the importers of bullion, and paying such toll or rent as may fairly be exacted from him by the Government.

But, with the view of satisfying myself more perfectly upon the details of such an arrangement, you will oblige me if you will favour me, as soon as it is conveniently in your power, with answers to the following queries:—

1st. Whether any private establishment exists for carrying on the French process of extracting the gold contained in bar silver and the silver contained in bar gold, to which extensive operations could be confided with the same readiness and security as to that which at present exists in the Mint?

2d. Whether the practice of separating the metals abroad has not had the effect of giving an advantage to the export of the precious metals, both as coin and as bullion, over general articles of commerce? And

3d. Whether, with a view rather to a due regulation of the currency and of the exchanges, than to a mere calculation of profit and loss, the Bank would be inclined to apply the process of refining to their future purchases of the precious metals?

I am, &c.

The Governor of the Bank, &c. &c. &c. (signed) *Auckland.*

(A.)
Royal Mint.

Appendix, No. 8.
Report on the Melting and Refining Departments.

My Lord, Bank of England, 15 December 1831.

I have the honour to acknowledge the receipt of your Lordship's letter of the 5th instant, intimating the intention of submitting to the Lords of His Majesty's Treasury the propriety of a new and specific arrangement with Mr. Mathison upon the subject of the refinery established at the Mint, and requesting the opinion of the Court of Directors of the Bank upon the effect and utility of that establishment. I have accordingly submitted the subject to the consideration of the Court of Directors, and am desired to acquaint your Lordship that they understand the refinery to have been established in the year 1829, in consequence of the process of separating the metals having been for some time previously in operation in France, by which a preference was given to remittances from this country in the precious metals over bills of exchange, and to that extent the export of manufactures and general articles of commerce was affected. Under that impression, the Court of Directors are of opinion that it would be inexpedient to discontinue the establishment of the refinery.

With respect to the system or mode of carrying it on, the Court of Directors are unable to offer any opinion further than to state the necessity of such arrangements being made as may afford satisfactory security to the Bank, or any other party, sending their gold and silver to the Mint for the purpose of separation.

In answer to your Lordship's three heads of inquiry, I am desired by the Court of Directors to state that,

1st. They are not aware of any private establishment existing for separating the metals, to which extensive operations would be confided with the same readiness and security as to that which at present exists in the Mint.

2d. They are of opinion that the practice of separating the metals abroad has had the effect of giving an advantage to the export of the precious metals from this country, both as coin and as bullion, over general articles of commerce.

3d. With a view rather to a due regulation of the currency and of the exchanges than to a mere calculation of profit and loss, it will be the inclination of the Bank to apply the process of refinery to their future purchases of the precious metals.

I have, &c.

The Right Hon. Lord Auckland, &c. &c. &c.

(signed) *J. Horsley Palmer.*

(No. 9.)

Lord *Auckland*'s Letter to the Governor of the Bank, Explanatory of his new Agreement with Mr. *Mathison*.

Sir, Mint-office, 30 March 1833.

Having had under my consideration the correspondence which passed between this office and the Bank of England upon the subject of the refinery at the Mint; and its appearing that the Court of Directors of the Bank are of opinion that, with a view to the preservation of the gold coinage, and a due regulation of the exchanges, the new process of refining introduced into the Mint by Mr. Mathison will be productive of benefit to the public; and having also adverted to your letter of the 15th December 1831, stating the necessity of such arrangements being made for carrying on the refinery as may be satisfactory to the Bank, or any other party sending their gold and silver to the Mint for separation; I have now the honour to acquaint you, that upon the grounds of the advantages which the public will derive by the new process of refinery, the Government have deemed it right to place the refinery establishment at the Mint upon a permanent footing; and to authorize an agreement to be entered into with Mr. Mathison for conducting the business, under such regulations and conditions as may be considered proper.

In the draft of the agreement drawn up in pursuance of the commands of the Lords Commissioners of the Treasury, between the Master of the Mint and Mr. Mathison, it is proposed, that the Bank of England, or any private individual, shall be allowed (without restriction as to its being ultimately coined) to bring gold or silver to the Mint for the purpose of being refined by the new process; and that Mr. Mathison shall be authorized to receive the bullion into his custody, on his own private account and responsibility, to be refined upon such terms as may be mutually agreed upon between the parties.

I enclose an extract from the agreement as far as concerns the Bank of England; and I have to invite the concurrence of the directors in the measures which have been taken.

I have, &c.

(signed) *Auckland.*

— Appendix, No. 9. —

(A.)
ROYAL MINT.

Appendix, No. 9.
Petition of Mint Clerks.

PETITION of the CLERKS in the MINT.

Sir, Mint Office, 12 November 1836.

PRESUMING that, in the general inquiry about to take place into the establishment of the Mint, your attention will be called to the appointments of the clerks; we humbly beg leave to refer for your consideration the subjoined copy of a Minute of Lord Ashburton, on his going out of office, upon a memorial presented to his Lordship by the inferior officers and clerks:

"The Master also recommends to the consideration of his successor, a petition from the inferior officers and clerks in the Mint to be put upon the same footing as the clerks in other Government offices, by being allowed a small increase on their salaries for length of service, as recommended, on the reform of the establishment in 1815, by Lord Maryborough. Although the Master of the Mint concurs with the decision of the Treasury, of 19th Nov. 1834, that the measure cannot be extended generally to the establishment, yet he is of opinion that some remuneration to the *clerks* for length of service is very desirable, and that the public service would be benefited by attaching meritorious persons to the service, and he recommends the consideration of it to his successor."

We beg, also, to call your attention to the following facts:—that the scale of our salaries is lower than that enjoyed by the same class of persons in any other public department, whilst the nature of our duties generally involves greater trust and responsibility; that after periods of various lengths of service (in one case of nearly twenty years, and in another, in which the individual has recently been removed to another office in the Mint, of eighteen years,) no increase of salary has been allowed, although the system of gratuities for length of service is adopted in most, if not all other Government offices [*see* Paper (A.)]; and that, since the order of Treasury of 5th June 1835, our duties have been greatly increased, in consequence of a portion of the commissariat business having been transferred from the Treasury to the Mint.

Trusting to your favourable consideration of our case, we have the honour to be, Sir, your most obedient humble servants,

W. H. Morrison. *Charles Elouis.*
James Hill. *Richard Valpy.*
Joseph Capes.

The Right Hon.
Henry Labouchere, &c. &c. &c.

PAPER (A.)

COMPARISON of the SCALE of SALARIES of the MINT CLERKS with those of the ORDNANCE DEPARTMENT and PAYMASTER of CIVIL SERVICES.

MINT.		ORDNANCE.	PAYMASTER of CIVIL SERVICES, 1834.
	per Ann. £. s. d.		
2d Extra Clerk, 2 *l.* 2 *s.* per week - -	109 4 –	On Salaries, at 90 *l.* per ann. — An increase after 3 years of 10 *l.* per ann. until the salary amounts to 180 *l.*	Junior Clerks — 200 *l.* per ann. maximum, after 25 years' service.
Note. — The head gate porter, and the head messenger at the Mint, are paid 2 *l.* 2 *s.* per week.			
1st Extra Clerk, 3 *l.* 3 *s.* per week - -	163 16 –	On Salaries, at 180 *l.* per ann. — An increase after 1st year of 10 *l.* per ann. until the salary amounts to 300 *l.*	2d Class Clerks — 350 *l.* maximum, after 25 years' service.
2d Clerk in Mint Office - - -	150 – –		
1st Clerk in ditto -	180 – –	On Salaries, at 300 *l.* per ann. — An increase after 1st year of 20 *l.* per ann. until the salary amounts to 400 *l.*	Senior Clerks, 1st Class. — 400 *l.* maximum, after 25 years service.
Deputy Master's Clerk (has served nearly 20 years)	200 – –		They then rise to the higher offices, if qualified.
No increase for length of service, and little chance of promotion to higher offices, if qualified.		On Salaries, at 400 *l.* per ann. — An increase after 1st year of 20 *l.* per ann. until the salary amounts to 550 *l.*	

Note.—It has recently been remarked by an intelligent writer on official business, "that what is most conducive to good appointments in the first instance, and thenceforward to deriving benefit from them, is to offer a small remuneration to the beginner, with successive expectancies proportioned to the merits manifested, and of such increasing amount as shall be calculated to keep easy the mind of a prudent man. The system of every service which requires energy and ability to be devoted to it, should be so contrived that a meritorious man may find some advancement accrue to him at least once in every ten years. It is in the nature of most men not to be well pleased if they find themselves at the end of any decade of their lives exactly in the same position which they occupied at the beginning. Once in ten years is full seldom for an active man to find himself progressive."

(A.)
ROYAL MINT.

Appendix, No. 10.
Purchases of Silver Bars and Dollars.

— Appendix, No. 10. —

A RETURN of all Purchases of SILVER BARS and DOLLARS, stating whether such Purchases were made for the COMMISSARIAT DEPARTMENT or the MINT, from 1 January 1835 to 31 March 1837.

1 January 1835 to 31 March 1837:

FOR THE COMMISSARIAT DEPARTMENT:	£.	s.	d.	FOR THE MINT:	£.	s.	d.
Dollars - - -	137,728	2	6	Dollars - - -	146,033	15	–
Specie: Old silver coin -	53,000	–	–	Bar silver - - -	497,299	1	–
New ditto -	284,600	–	–				
Guineas - -	21,000	–	–				
£.	496,328	2	6	£.	643,332	16	–

Mint Office, 20 April 1837. *J. W. Morrison*, Deputy Master.

Appendix, No. 11.
Charge for Coinage of Monies.

— Appendix, No. 11. —

AN ACCOUNT of the Gross Charge, by Indenture and Treasury Authority, for the Coinage of GOLD, SILVER and COPPER MONIES (including the Private COINAGES), and the Charges for REFINING and MELTING BULLION for COINAGE; also of the Sums paid thereout for the respective Charges of the MONEYERS, and MELTER and REFINER, according to their Agreements; for the MASTER'S FEES, as regulated by the Act 39 Geo. 3; and showing the Surplus applied in Aid of the Contingent Expenses of the Establishment, from the Year 1816 to 31 March 1837, distinguishing each Year.

YEAR.	Gross Charge by Indenture.			Paid to the Moneyers.			Paid to the Melter.			Paid to the Receiver for Master's Fees.			Surplus applied to the Contingent Expenses of the Mint.		
	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
1816	61,850	12	1	34,242	4	11	14,349	2	2	7,862	5	4	5,396	18	4
1817	116,407	8	9	57,042	12	5	32,143	9	2	18,384	18	8	8,836	8	5
1818	38,455	–	4	20,021	14	3	7,428	19	11	8,021	18	11	2,982	7	3
1819	40,816	4	6	21,773	7	8	10,313	19	6	5,207	8	2	3,521	9	1
1820	37,201	11	5	21,506	18	1	6,701	6	8	5,390	5	2	3,603	1	5
1821	81,308	13	1	41,395	13	10	12,067	12	9	20,457	15	8	7,387	9	8
1822	51,784	7	9	28,859	11	3	6,827	7	6	11,029	6	–	5,068	2	8
1823	20,626	8	–	11,599	7	5	4,318	14	7	2,661	2	5	2,047	3	7
1824	38,764	1	5	19,915	14	–	6,161	6	8	9,132	9	9	3,554	11	–
1825	47,537	18	9	24,941	19	10	6,446	–	9	11,700	7	5	4,445	10	9
1826	76,547	12	2	42,948	9	9	12,057	3	3	14,065	6	2	7,476	7	9
1827	23,541	4	11	13,299	11	1	2,895	9	7	5,065	7	5	2,281	6	–
1828	10,220	13	3	5,318	6	9	1,998	19	5	2,045	9	–	857	18	–
1829	20,629	16	6	10,907	10	4	2,541	6	10	5,244	7	6	1,936	11	11
1830	18,129	13	10	9,388	7	10	2,419	12	8	4,685	4	–	1,636	8	5
1831	7,043	17	11	4,144	11	11	869	8	5	1,312	10	6	717	7	1
1832	27,507	4	5	13,942	17	11	3,733	8	5	7,332	1	11	2,498	16	2
1833	9,006	14	9	4,651	15	5	1,098	2	2	2,404	6	11	852	10	11
1834	16,776	4	11	10,635	19	11	2,275	–	11	1,948	6	11	1,916	17	2
1835	14,389	8	1	8,359	1	9	1,757	19	11	2,819	17	4	1,452	9	1
1836	28,631	–	7	15,975	15	6	4,143	2	11	5,574	1	–	2,938	1	2
31 Mar. 1837	2,802	12	1	1,651	8	3	354	17	6	499	17	7	296	8	8
£.	789,974	9	10	422,523	–	1	142,902	11	8	152,844	13	9	71,704	4	4

Mint Office, 19 April 1837. *Jas. W. Morrison*, Deputy Master.

(A.)
ROYAL MINT.

Appendix, No. 12.
Charge allowed for Coinage in 1835

— Appendix, No. 12. —

A RETURN of the several Items of Charge, and their several Amounts, forming the Sum of £.14,165. 1*s.* 9*d.*, as allowed by the Mint Indenture for the Coinage of Gold, Silver and Copper Monies in 1835, stating the Number of Pieces of each Denomination coined, the Rate of Charge, and the Amount charged for each kind:

—	Weight.				Denomination.	Number of Pieces.	Rate of Charge.	Amount charged.
	lbs.	*oz.*	*dwts.*	*grs.*			*s.* *d.*	£. *s.* *d.*
Gold	11,567	11	9	6	sovereigns	540,512	6 8 ¼ per lb.	3,868 – 11
	6,002	0	9	4	half-sovereigns	560,890	7 10 ½ –	2,363 5 9
British silver	10,680	0	0	0	half-crowns	281,952	1 5 ¾ –	789 17 6
	28,380	0	0	0	shillings	1,873,080	1 10 ½ –	2,660 12 6
	14,940	0	0	0	sixpences	1,972,080	2 2 –	1,618 10 –
West India silver coinage	2,479	0	0	0	threepences	654,456	2 9 ¼ –	343 8 10
	2,116	0	0	0	threehalfpences	1,117,248	3 11 ¼ –	416 11 9
Ionian coinage	303	0	0	0	oboli pieces	40,032	2 3 –	34 1 9
Portuguese coinage	3,240	0	0	0	cruzados	83,689	1 10 ½ –	303 15 –
Demerara silver coinage	456	0	0	0	guilders	21,898	2 6 –	57 – –
	379	0	0	0	½ guilders	36,384	2 10 –	53 13 10
	379	0	0	0	¼ guilders	72,768	3 2 –	60 – –
	184	0	0	0	⅛ guilders	70,440	3 6 –	32 4 –
Maundy monies	11	0	0	0	pence	8,640	3 11 ¼ –	1 11 –
	9	0	0	0	twopence	3,564	3 2 ¼ –	1 10 5
	11	0	0	0	threepence	2,880	2 9 ¼ –	1 8 8
	13	0	0	0	fourpence	2,574	2 4 ¾ –	2 3 2
	Tons.						per ton.	
British copper	2				pence	107,520	£.42 – –	84 – –
	2				halfpence	215,040	46 13 4	93 6 8
	6				farthings	1,290,240	52 13 4	316 – –
Ionian copper coinage	*Tons.*	*cwts.*			⅒ of a penny	7,311,360	65 – –	884 – –
	13	12						
Malta copper coinage	2	5			⅓ of a farthing	1,451,520	80 – –	180 – –
							£.	14,165 1 9

— Appendix, No. 13. —

AN ACCOUNT of the Application of the Sum of £.14,165. 1*s.* 9*d.*, stating the Amount paid to each Person, for what Service paid, and under what Authority.

Authority.	Service.	Moneyers.	Melter.	Receiver of Mint Fees.	Officers' Fees on Private Coinages.	Surplus Fees carried to the Public Account.
		£. *s.* *d.*	£. *s.* *d.*	£. *s.* *d.*	£. *s.* *d.*	£. *s.* *d.*
Indenture	Gold coinage	3,300 15 1	748 14 7	1,610 11 8	– – –	571 5 2
Ditto	Silver coinage	3,086 17 8	673 2 –	731 5 –	– – –	577 15 4
Ditto and Treasury	West India ditto	471 15 9	104 16 11	62 4 5	– – –	121 3 5
Indenture	Maundy coinage	4 3 1	– 18 5	– 11 11	– – –	1 – 2
Treasury authority	British copper coinage	383 6 8	53 6 8	– – –	– – –	56 13 4
Ditto	Ionian silver coinage	25 19 8	5 15 6	– – –	– – –	2 6 7
Ditto	Portuguese silver coinage.	171 19 10	52 18 5	– – –	43 17 6	34 19 3
Ditto	Ionian copper coinage	779 14 8	72 10 8	– – –	– – –	31 14 8
Ditto	Malta copper coinage	155 5 –	12 – –	– – –	– – –	12 15 –
Ditto	Demerara silver coinage.	128 4 5	22 16 9	– – –	11 13 –	40 3 7
	£.	8,508 1 10	1,746 19 11	2,404 13 –	55 10 6	1,449 16 6

Total Charge - - - £. 14,165. 1*s.* 9*d.*

Mint Office, 24 April 1837.

Jas. W. Morrison, Dep. Master

(A.)
ROYAL MINT.

— Appendix, No. 14. —

Appendix, No. 14.
Appropriation of Brokerage.

AN ACCOUNT of the Appropriation of £.401. 5*s.* 1*d.* charged as Brokerage paid by the Deputy Master of the Mint for the Purchase of Bullion in 1835, distinguishing the Accounts of Gold, Silver and Copper, and the Amount of each of these Metals used in Coinage for the Commissariat Service, stating the Rate of the Brokerage, and the Amount paid to each Broker.

	£.	s.	d.	£.	s.	d.
1835, Jan. 27.—Paid to Messrs. Mocatta & Goldsmid, brokerage on 259,984*l.* 5*s.* 5*d.*, value of bar silver purchased through them at $\frac{1}{8}$ per cent.	324	19	5			
Paid to ditto brokerage on 48,643*l.* 17*s.* 3*d.*, value of new dollars purchased through them, at $\frac{1}{8}$ per cent.	60	16	–			
Paid to ditto brokerage on 14,951*l.* 7*s.* 1*d.*, value of the balance of silver bullion and coin remaining in the Mint on the Portuguese coinage, purchased through them at $\frac{1}{16}$ per cent.; the agent for the Portuguese government paying the other $\frac{1}{16}$ per cent.	9	6	10			
Total paid to Messrs. Mocatta & Goldsmid				395	2	3
Paid to Messrs. Sharpe & Co. brokerage on 4,915*l.* 9*s.* 2*d.*, value of bar silver purchased through them at $\frac{1}{8}$ per cent.				6	2	10
			£.	401	5	1

Note.—No purchases of gold or copper are made by the Mint through a broker.

Jas. W. Morrison,
Dep. Master.

Mint Office, 24 April 1837.

— Appendix, No. 15. —

Appendix, No. 15.
Wages paid to Artificers.

AN ACCOUNT showing the Total Sum paid for Wages to the Artificers employed in keeping the Machinery of the Mint in order, in the Year 1835, distinguishing the Amount paid by Government, and the Amount paid by the Moneyers; also, the Allowance for Coals, Tallow, Oil, &c. for working the Machinery.

Proportion payable by Government.							Proportion payable by the Moneyers.						
———	Wages.			Allowance for Coals, &c.			———	Wages.			Allowance for Coals, &c.		
1835:	£.	s.	d.	£.	s.	d.	1835:	£.	s.	d	£.	s.	d.
Quarter to 31 Mar.	140	15	$3\frac{3}{4}$	10	13	$10\frac{3}{4}$	Quarter to 31 Mar.	84	9	$2\frac{1}{4}$	6	8	$3\frac{3}{4}$
Quarter to 30 June	112	12	3	8	11	5	Quarter to 30 June	112	12	3	8	11	5
Quarter to 30 Sept.	197	1	$5\frac{1}{4}$	15	–	$1\frac{3}{4}$	Quarter to 30 Sept.	28	3	$-\frac{3}{4}$	2	2	$10\frac{1}{2}$
Quarter to 31 Dec.	140	15	$3\frac{3}{4}$	11	16	11	Quarter to 31 Dec.	84	9	$2\frac{1}{4}$	7	2	$1\frac{1}{2}$
£.	591	4	$3\frac{3}{4}$	46	2	$4\frac{1}{2}$	£.	309	13	$8\frac{1}{4}$	24	4	$8\frac{3}{4}$

Jas. W. Morrison,
Dep. Master.

Mint Office, 24 April 1837.

Appendix, No 16.

MINUTE of the BOARD, dated 19 June 1833.

The late regulation for the payment of the moneyers' artificers' wages, which was made on the establishment of the gold coin fund, being found, now that that measure has ceased, to be inapplicable to the present state of the coinage, and it being expedient that some other plan should be formed for ascertaining the proportion of the wages which shall be paid respectively by the Government and the company of moneyers, the Board, under the approval of the Master of the Mint, and with the concurrence of the provost and company of moneyers, propose that the following arrangement shall take place for the present year, commencing from the 31st March last:

1st. That in lieu of the rates of the wages now paid by the Government to the artificers, the following shall be paid:

NEW LIST. Showing the Wages proposed to be paid by Government.	£.	s.	d.	OLD LIST. Showing the Wages as they have been paid by Government.	£.	s.	d.
Three principal artificers, at 3 *l.* 3 *s.* per week, each	9	9	0	Ditto at 2 *l.* 2 *s.* per week	6	6	0
Three under artificers at 2 *l.* 2 *s.* per week, each	6	6	0	Ditto at 2 *l.* 2 *s.* per week	6	6	0
One engine-man, at 1 *l.* 11 *s.* 6 *d.* per week	1	11	6	Three engine-men, at 1 *l.* 11 *s.* 6 *d.* per week	4	14	6
The two other engine-men to be paid by the Moneyers.							
£.	17	6	6	£.	17	6	6

Note.—By this regulation, the three principal artificers will be secured in permanently receiving three guineas per week, and no addition will be made to the sum allowed for the full amount of the wages, the moneyers undertaking to pay the two extra engine-men.

2d. That the following scale be adopted for ascertaining the proportion of wages to be paid respectively by the Government and the company of moneyers in each quarter:

	VALUE Of the Coinage in each Quarter.		PROPORTION Of 225 *l.* 4 *s.* 6 *d.* wages to be paid.						Moneyers' Charge for Gold Sovereigns coined at 3 *s.* 6 *d.* per lb.		
	GOLD.	SILVER.	By Government.			By the Moneyers.					
	£.	£.		£.	s.	d.		£.	s.	d.	£.	s.	d.
If under	125,000	62,500	full	225	4	6	–	nil.			468	3	2⅓
If above	125,000	62,500	⅞	197	1	5¼	⅛	28	3	–¾	468	3	2½
ditto	250,000	125,000	⅝	168	18	4½	⅜	56	6	1½	936	6	5
ditto	375,000	187,500	⅝	140	15	3¾	⅜	84	9	2¼	1,404	9	8
ditto	500,000	250,000	⅜	112	12	3	⅝	112	12	3	1,872	12	10
ditto	625,000	312,500	⅜	84	9	2¼	⅝	140	15	3¾	2,340	16	1½
ditto	750,000	375,000	⅜	56	6	1½	⅝	168	18	4½	2,808	19	4
ditto	875,000	437,500	⅛	28	3	–¾	⅞	197	1	5¼	3,277	3	–
ditto	1,000,000	500,000	–	nil.			full	225	4	6	3,745	6	3

Note.—In silver, the same proportions to be paid by the Government and the company when half the value may have been coined according to the gold scale.

In copper, to be regulated by the sum received by the company, in proportion to the sum they receive for coining the amounts specified in the foregoing table.

3d. If silver and copper shall be coined at the same time with gold in the Quarter, and the receipts upon either or both of them with the gold make up a sum equal to any sum specified in the table for the charge on gold monies, the proportions shall be paid by the moneyers and Government accordingly; and the same if a coinage of any other description take place.

4th. These regulations are to be in force for one year, ending 31st March 1834, when they are to be subject to revision before they are renewed.

Note.—In order to calculate the above proportion on the copper the following example is given, viz.:

(A.)
ROYAL MINT.

Appendix, No. 16.
Regulation for payment of Wages.

	Moneyers' price per lb. for coining sovereigns.			Price paid (say) for copper coined.		
	s. *d.*	lb.		£. *s.* *d.*	lb.	
As	3 6	: 1	: :	414 6 8	: 2,367	
	lb.	value of the gold.		lb.	£. *s.* *d.*	
Then as	1	: 46 14 6	: :	2,367	: 110,598 1 6 to be added to the value of gold or silver coined.	

5th. An allowance, at the rate of 20 chaldrons of coals, two casks of tallow, and 20 gallons of oil in the year, being paid to the moneyers when the Mint is not at work, it is proposed that the above scale shall be applied to ascertain the proportion to be charged to the Government in each quarter.

FOR THE QUARTER.

	Coals.	Tallow.	Oil.
At full	5 chaldrons	½ cask	5 gallons
7/8	4 3/8 —	7/16 —	4 3/8 —
6/8	3 6/8 —	6/16 —	3 6/8 —
5/8	3 1/8 —	5/16 —	3 1/8 —
4/8	2 4/8 —	4/16 —	2 4/8 —
3/8	1 7/8 —	3/16 —	1 7/8 —
2/8	1 2/8 —	2/16 —	1 2/8 —
1/8	— 5/8 —	1/16 —	— 5/8 —
—	nil. —	nil. —	nil. —

Note.—The chaldron being one-fourth more than the new measure of the ton, the charge must be ¼ more, viz. if the ton is 20*s.* the chaldron will be 25*s.*

Mint Office, 26 April 1837.

Jas. W. Morrison,
Dep. Master.

Appendix, No. 17.

AN ABSTRACT of the Trials of the PYX, showing the Date of each Coinage, the Amount or Value of the Coinage, and the Pieces deposited in the Pyx for Trial; from the Year 1816 to 31 December 1835.

Date of the Coinage.	GOLD. Value of the Coinage.	SILVER. Value of the Coinage.	GOLD PIECES put into the Pyx. Double Sovs.	Sovs.	Half Sovs.	Silver put into the Pyx for Trial. Crowns	Half Crowns.	Shillings.	Sixpences	Maundy.
	£. *s.* *d.*	£. *s.* *d.*								
From 13 July to 31 May 1817	— — —	3,078,108 — —	— —	— —	— —	— —	3,938	9,303	2,305	—
— 11 July 1817	703,678 10 —	— — —	— —	1,004	—					
— 15 July to 13 June 1818	6,434,632 10 —	— — —	— —	6,961	2,219	—				
— 3 June 1817 to 20 May 1818	— — —	1,567,962 — —	— —	— —	— —	— —	2,934	3,447	1,538	—
— 1816, 1817, 1818	— — —	290 8 —	— —	— —	— —	— —	— —		— —	— 6 —
— 13 June 1818 to 31 Dec. 1831	10,473,849 1 8	— — —	— —	14,757	190	—				
— 21 May 1818 to 31 Dec. 1821	— — —	2,720,143 16 —	— —	— —	— —	2,178	6,090	4,560	909	— 6 —
— 1 Jan. to 31 Jan. 1822	5,356,787 12 6	31,430 7 1½	— —	7,643	— —	158	— —	— —	— —	— 2 —
— 1 Jan. to 9 Oct. 1823	583,828 17 6	101,131 16 —	— —	833	— —	— —	510	—	— —	— 2 —
— 9 Oct. to 29 June 1824	806,707 2 6	387,010 16 —	46	842	263	— —	914	960	80	— 2 —
— 29 June 1824 to 1 July 1825	5,046,300 — —	137,761 16 —	— —	6,338	862	— —	143	548	4	— 2 —
— 1 July 1825 to 31 May 1827	10,968,693 15 —	1,000,599 12 —	— —	15,053	597	— —	2,713	2,174	165	— 4 —
— 31 May 1827 to 11 February 1828	409,311 — —	— — —	— —	584	—					
— 11 Feb. to 22 June 1830	5,598,589 10 —	124,699 15 3	— —	7,097	891	— —	353	222	53	— 6 —
— 11 Feb. to 13 Dec. 1830	244,605 7 6	— — —	— —	349	—					
— Ditto to 31 Dec. 1832	4,335,612 15 —	33,841 9 8	— —	6,186	— —	— —	— —	— —	170	— 6 —
— Ditto to 1 July 1834	1,225,269 13 6	300,458 8 —	— —	1,749	— —	— —	291	574	651	— 4 —
— Ditto to 31 Dec. 1834	66,949 12 5	132,462 — —	— —	—	96	— —	336	240	93	—
— Ditto to 8 May 1835	343,428 15 —	39,547 4 —	— —	490	— —	— —	35	119	45	— 2 —
— Ditto to 31 Dec. 1835	766,289 13 10	107,118 — —	— —	543	552	— —	143	247	151	—
£	53,363,933 16 5	9,762,565 8 - ½	46	70,429	5,670	2,336	18,400	22,394	6,164	£. *s.* *d.* 2 2 —
VALUE of the Pyx Pieces £.			92	70,429	2,835	584	2,300	£. *s.* 1,119 14	£. *s.* 154 2	£. *s.* *d.* 2 2 —

Mint Office, 26 April 1837.

J. W. MORRISON, Dep. Master.

Appendix, No. 18.

AN ACCOUNT, showing the Progress of Coinage of Three Parcels of Gold Bullion, amounting in Sterling Value to 19,288*l.* 18*s.* 7*d.*, imported into the Mint, by Messrs. *J. G.* & *G. A. Sharpe*, on the 1st, 2d and 3d days of February 1837, with a view to determine, by actual experiment, the absolute Loss arising from the detention of Bullion at the Mint, during its being converted into Coin, under the existing Mint regulations.

The Right Honourable the Master of His Majesty's Mint, in Account with Messrs. *J. G.* & *G. A. Sharpe*, for Gold Bullion received for Coinage.

Dr.					Per Contra.					Cr.
1837:	lbs.	oz.	dwt.	grs.	£. s. d.	1837.	lbs.	oz.	dwt.	grs.	£. s. d.
Feb. 1. To importation, No. 1,	224	–	13	–	10,468 18 7	Feb. 18. By first delivery in coin - - -	75	–	–	–	3,504 7 6
— 2. Ditto - -	2, 85	8	2	15	4,003 5 9	Balance -	337	9	16	9	15,784 11 1
— 3. Ditto - -	3, 103	1	–	18	4,816 14 3						
	412	9	16	9	19,288 18 7		412	9	16	9	19,288 18 7
Feb. 18. To balance - -	337	9	16	9	15,784 11 1	Feb. 22. By second delivery in coin - -	150	–	–	–	7,008 15 –
						Balance -	187	9	16	9	8,775 16 1
					15,784 11 1		337	9	16	9	15,784 11 1
Feb. 22. To balance - -	187	9	16	9	8,775 16 1	March 1. By third delivery in coin - -	130	–	–	–	6,074 5 -
						Balance -	57	9	16	9	2,701 11 1
					8,775 16 1		187	9	16	9	8,775 16 1
March 1. To balance - -	57	9	16	9	2,701 11 1	March 10. By fourth delivery in coin - -	57	9	16	9	2,701 11 1

Note.—In 15 days nearly 0.18 of the whole amount was returned to the importer.
In 19 - ditto - 0.54 - - - - ditto.
In 26 - ditto - 0.86 - - - - ditto.
In 35 days the whole amount was returned in coined monies.

Mint Office, 27 April 1837.

W. H. Barton, Comptroller.

Appendix, No. 19.

LETTER and ACCOUNT from Messrs. *Sharp & Co.*, respecting the Loss sustained on a Quantity of Gold Bullion imported for Coinage.

Appendix, No. 19. Loss by Messrs. Sharp & Co.

Sir, Treasury Chambers, 29 April 1837.

The Lords Commissioners of His Majesty's Treasury having had before them a letter from Messrs. Sharp & Co., dated 21st instant, showing, that under the present regulations it is unprofitable for the importer of gold from foreign countries to coin at the Mint, and therefore the Acts of Parliament for encouraging the coinage are at present inoperative, I have it command to transmit to you a copy of the said letter, for your information with reference to the inquiry now going on with respect to the Mint, now before the Select Committee of the House of Commons.

I am, &c.

The Master of the Mint. (signed) *A. Y. Spearman.*

(A.)
ROYAL MINT.

Appendix, No. 19.
Loss by Messrs. Sharp & Co.

Sir, 31 Winchester-street, 21 April 1837.

ALTHOUGH it has been generally understood, since the Mint has discontinued to make advances of cash on gold ingots sent in for coinage, that a loss would be incurred in the operation, still, from the encouragement held out to the public by an Act of Parliament of the 18th year of Charles 2, called "An Act for encouraging of Coinage," confirmed by subsequent Acts, and also from the large amounts of gold frequently passing through our hands, we have been induced to make the experiment, the particulars of which we have the honour to annex, showing, that in an amount of gold under 20,000 *l.* value, notwithstanding the advantage of receiving back at 77/10½ per oz. standard, which cost only 77/9, there is a loss of above 25 *l.*, occasioned by delay. Our object in troubling you with this statement is, that as there is a Committee of the House of Commons now engaged in the affair of the Royal Mint, it may be shown that, under the present regulations, it is unprofitable for the importer of gold from foreign countries to coin at the Mint, and therefore the Acts of Parliament for encouraging the coinage are at present inoperative.

We have, &c.
(signed) *J. G. & G. A. Sharp.*

A. Y. Spearman, Esq.,
&c. &c. &c.

Dr. The Royal Mint in Account of Coinage with J. G. & G. A. Sharp. Cr.

1837.	£.	s.	d.	1837.	£.	s.	d.
Feb. 1. To 13 gold ingots, sent to the Mint for coinage, lbs. 223. 10. 15. 2. stand^{d}, a' 77/9 per oz.	10,444	15	1	Feb. 18. By gold received from the Mint, lbs. 75.	3,505	–	–
– 2. To five ingots, standard lbs. 85. 7. 6. a' 77/9 per oz.	3,993	14	–	– 22. By gold coin received from the Mint, lbs. 150.	7,013	–	–
– 3. To six ingots, standard lbs. 103. 0. 15. a' 77/9 per oz.	4,807	18	9	March 1. By gold coin received from the Mint, lbs. 130.	6,074	–	–
To Master's assays, 2/. per ingot.	2	8	–	– 10. By gold coin received from the Mint, lbs. 57. 9. 16. 9.	2,701	11	1
To the King's assaymaster, for 24 assays a' 5/. each.	6	–	–				
To the Mint porters, fees 3*d.* on each ingot.	–	6	–				
To 6*s.* on each delivery of coin.	1	4	–				
	19,256	5	10		19,293	11	1
To interest, as per account - - -	63	4	2	By loss on this operation - -	25	18	11
£.	19,319	10	–	£.	19,319	10	–

Dr. Interest Account, at Five per Cent. per Annum. Cr.

	£.	s.	d.		£.	s.	d.
On 10,444 *l.*, from 1 Feb. to 10 March, 37 days.	52	18	8	On 3,505 *l.*, from 18 Feb. to 10 March, 20 days.	9	12	1
				On 7,013 *l.*, from 22 Feb. to 10 March, 16 days.	15	7	5
On 3,993 *l.*, from 2 Feb. to 10 March, 36 days.	19	13	9	On 6,074 *l.*, from 1 March to 10 March, 9 days.	7	9	9
On 4,808 *l.*, from 3 Feb. to 10 March, 35 days.	23	1	–				
					32	9	3
				Balance - - -	63	4	2
£.	95	13	5	£.	95	13	5

(A.)
ROYAL MINT.

Appendix, No. 20.
Power of the Mint as to Coinage.

Appendix, No. 20.

A RETURN of the Power of the MINT, as to COINAGE, if required, for the ordinary Hours.

Gold Coinage.

THE power of the Mint for gold coinage depends upon the quantity of work that can be done in the master's assay-office.

The ordinary quantity is two importations, or 200 ingots, per week; which is equal in value to about 150,000 *l.* per week, or 7,500,000 *l.* in the year.

Supposing the working hours to be 10 hours per day, one coining press will strike about 30,000 pieces in that time; therefore, with five presses at work, 150,000 sovereigns might be struck in one day.

N. B.—By taking three importations a week in the assay-office, or about 250,000 *l.* a week, the Mint might coin nearly 12 millions in the year; but this is an extraordinary effort.

Silver Coinage.

The power of the Mint for silver coinage, in like manner, depends upon the quantity of work that can be done in the master's assay-office.

The ordinary quantity is three importations, or 300 ingots, per week, equal to 60,000 *l.* value, or about 3,000,000 *l.* in the year.

Suppose the Mint to work 10 hours in the day, 60,000 *l.* or equal to 1,200,000 shillings. Allowing 30,000 pieces per day to one press, the seven presses would strike 210,000 shillings per day; or, in six days, 1,260,000.

N. B.—By taking four importations in the week into the assay-office, or 80,000 *l.*, the Mint would coin 4,000,000 *l.* value of shillings in the year; but this could not be effected without extraordinary effort.

Copper Coinage.

The power of the Mint for copper coinage depends upon the quantity of work that can be done in the rolling-room; four tons of copper rolled per day will produce two tons of coin, which, at 224 *l.* per ton, the rate at which copper is coined at the Mint, gives 448 *l.* value, equal to 107,520 pence.

The four presses, working 10 hours per day, would strike about 120,000 pieces.

In the above estimates it is to be understood that the coinage is confined to gold, silver, or copper respectively.

Mint Office, 2 May 1837. *Jas. W. Morrison*, Deputy Master.

Appendix, No. 21.

A RETURN of the Amount of ALLOY added to the Scissel Pots of GOLD and SILVER, in each Year since 1816, and the Value gained by the Gold and Silver by such Alloy.

App. No. 21.
Amount of Alloy added to Gold and Silver.

DATE.	GOLD.			SILVER.		
	Amount of Alloy added to the Gold Scissel in each Year.	Value gained by the Gold at 3 *l.* 17 *s.* 10½ *d.* per oz.	Amount of the Coinage of Gold each Year.	Amount of Alloy added to the Silver Scissel in each Year.	Value gained by the Silver at 5 *s.* 6 *d.* per oz.	Amount of the Coinage of Silver in each Year.
	Troy Weight. *lbs. oz. dwts. grs.*	£. *s.* *d.*	£.	Troy Weight. *lbs.* *oz. dwts. grs.*	£. *s.* *d.*	£.
1816	- nil -	- - -	- - -	328 1 16 12	1,082 18 −½	1,805,251
1817	1 8 7 22	79 8 3½	4,275,337	367 1 7 20	1,211 9 7¾	2,436,297
1818	7 1 19 15	334 15 9½	2,862,373	130 1 15 0	429 9 7¾	576,279
1819	- nil -	- - -	3,574	239 7 13 6	790 16 1½	1,267,272
1820	- nil -	- - -	949,516	199 0 18 0	656 18 11½	847,717
1821	6 10 11 6	321 9 6¾	9,520,758	129 5 2 0	427 2 −½	433,686
1822	7 10 10 13	368 1 3¾	5,356,787	10 10 9 0	35 17 5¾	31,430
1823	0 11 3 3	43 8 9½	759,748	38 11 5 0	128 9 10½	285,271
1824	3 7 12 12	169 17 3½	4,065,075	39 4 10 0	129 18 9	282,070
1825	1 0 5 0	47 13 11¾	4,580,919	31 0 15 0	102 10 1½	417,535
* 1826	- - -	- - -	5,896,461	18 9 15 0	62 1 7½	608,605
1827	1 6 16 6	73 5 −¼	2,512,636	3 6 0 0	11 11 −	33,019
1828	0 3 10 0	13 12 6¾	1,008,559	- nil -	- - -	16,288
* 1829	- nil -	- - -	2,446,754	16 0 0 0	52 16 −	108,259
* 1830	- nil -	- - -	2,387,881	- nil -	- - -	151
1831	- nil -	- - -	598,547	- nil -	- - -	33,696
1832	- nil -	- - -	3,737,065	- nil -	- - -	145
1833	- nil -	- - -	1,225,269	- nil -	- - -	145
1834	- nil -	- - -	66,949	- nil -	- - -	432,775
1835	- nil -	- - -	1,109,718	28 3 0 0	93 4 6	146,665
1836	1 10 17 12	89 1 4¾	1,787,782	65 8 13 0	216 17 7	497,719
1837	- nil -	- - -	- - -	15 0 5 0	49 11 4½	—
	32 11 13 17	1,540 14 −½	55,151,720	1,661 1 4 14	5,481 12 9½	10,260,275

* The Records in the Office of the Surveyor of Meltings for the years 1826, 1829 and 1830, are defective, but the quantities of alloy added to the scissel during these years have been obtained from the private books of the melter.

James W. Morrison, Deputy Master.

(A.)
Royal Mint.

Appendix, No. 22.
Remarks by Mr. Bingley on Gold and Silver Trial Plates.

Appendix, No. 22.

Remarks on the State of the Gold and Silver Trial Plates, with reference to Alterations in the Fineness of the new Trial Plates, now rendered necessary by the old Trial Plates being worn out by repeated use. By *Henry Bingley*.—King's Assay Office, Jan. 1830.

Also a Letter, written previously, on the subject of the Silver Trial Plate; Correspondence with the Paris Mint, &c.

Gold and Silver Trial Plates.

Knowing with what jealousy and apprehension the least change in any part of the circulation of this country is regarded, whether it be as concerns the metallic or paper currency, and being aware how much the interest of all and each of us makes us naturally alive to the subject, I am desirous to explain the grounds on which a slight change, as regards our silver currency, has just taken place, and to show that this is not a change undertaken arbitrarily or without good reason, much less for any unworthy motive on the part of those concerned in it, but merely a desire to substitute a perfect accordance with the law, as it now exists, for an imperfection or deviation therefrom; to substitute, in fact, accuracy for inaccuracy, as regards the purity and quality of our coin. Before, however, I can do this, I must at once allude to the subject of what are called "Standard or Trial Plates," and explain their nature, and the necessary influence they have on the purity of our coin. Although at the Mint we have no authentic account of them previous to the year 1660, it is not probable that their origin is to be dated from that time; but that, considering their excellence as a check to any deviation from correctness in the coin, and how eminently useful they are as objects to refer to, it is most probable they soon followed the introduction of money itself, particularly when the coinage of money for the country at large became almost centered in one place, and when the several provincial mints we read of gave way to the one now existing in the capital. It is well known that, during the several reigns as far back as William the Conqueror, the quality of our coins, both gold and silver, has often changed, and this to suit the wishes and intentions of the sovereign or the government for the time being. The variations embrace an extent of two ounces of fine metal in the pound, for the gold coin, the greatest fineness being nearly purity, and the least degree of fineness not containing more than 10 ounces of fine metal in the pound troy. Our present gold standard of 11 ounces, or 22 carats, fine gold, has existed since the time of James the First, without any alteration. The variations in the fineness of our silver coin, during the various reigns alluded to, are certainly more considerable. They descend, from 11 ounces two pennyweights of fine metal, (the present as well as the highest degree of fineness our silver coin has reached,) as low as not more than four ounces of fine metal in the pound. This was in the latter part of the reign of Henry 8. In the reign of Edward it improved gradually to 11 ounces, remained nearly stationary in the time of Mary, but was finally fixed at 11 ounces two pennyweights in the time of Elizabeth, at which degree of purity it has been the wish and intention of succeeding Governments to keep and preserve it. It is obvious that, although in the due regulation of the purity of coin, skill and integrity are sufficient to keep that coin up to any particular quality of fineness, yet, as this must depend upon individual responsibility, how desirable it appears to have, as an arbiter of any disputes that might arise on the subject, a "Standard or Trial Plate," to which on any occasion reference might be made, or comparisons instituted, and whose utility might be extended by being employed in public trials of our monies for the satisfaction and confidence of the public at large. That this feeling has been always entertained, must be acknowledged by the circumstance of Government having been always provided with these trial plates, by which the skill and integrity of those who regulate the fineness of the coin might at once be estimated. The necessity of them being allowed, it became an object of consideration in what way they could be most perfectly formed, and who were most proper and fitting to undertake that task. Perhaps it was not likely that their formation could be more perfect or their fineness more properly apportioned than at the Mint itself, where daily experience was had in the melting, mixing, and combination of metals: but here an objection was at once evident; that as these trial plates were to try the skill and integrity of those engaged in the Mint, it did not seem right that the Mint should have anything to do with their formation, but that this should be accomplished by those who, having no interest in the result of any comparison between the coin and the trial plates, could not be suspected of the least inducement to deviate from accuracy and correctness. Next to the Mint, then, the company of goldsmiths were considered as most eligible for the undertaking; and from the year 1660 to the present time the duty has devolved upon them, a duty which they have uniformly performed with the greatest attention and integrity, fully aware of the importance of the object in which they were engaged. It may not be improper to remark, in this place, that having once determined on the quality or fineness of the intended trial plates, there are several difficulties arising, each able to prevent a perfect result in their formation. Should there be any error in the quantity, either of the fine metal or the alloy to be combined, the result at once becomes imperfect; should the two metals to be united not be in a state of perfect purity, the result is erroneous; and even supposing the weights of each absolutely correct, and the purity of both certain, still, in their combination

or

or melting together, sources of error creep in. If the mass be kept too long in fusion, or if atmospheric air be allowed access to the melted metal, an oxydizing of the alloy takes place, diminishing its quantity, and therefore rendering the aggregate too fine. Again, if there be not sufficient heat, and the melted mass be not properly and with judgment stirred, so that by mechanical means a chemical action or perfect mixture of the whole be effected, an imperfect plate is the result, varying possibly in different parts. These circumstances render a perfect trial plate, as an immediate result, a little doubtful, and late experience has fully demonstrated the truth of this. The importance of accuracy here, however, demands repetition of the experiment till it be attained, or at least, according to the degree of knowledge there is in these matters at the time, supposed to be attained. A trial plate should not be considered perfect till at least the synthesis and the analysis of it are in accordance. It has been the custom, on the formation of a new trial plate, whether gold or silver, (though both have been usually formed at the same time), to divide it into three parts; one part is lodged at the Exchequer, another at the Goldsmiths' Hall, and the third at the Mint. These parts are of a size large enough to admit of their being used for many public trials of the monies coined, which trials are called "Trials of the Pix," held at the Exchequer; and the trial plate by which our gold coin was at the last trial compared, has been in existence a century and a half. I will now proceed to some observations regarding the "Gold Trial Plate," though, from the recent alteration in the silver currency, the silver trial plates will more particularly occupy our attention on the present occasion. It is my wish to render this subject, and the actual state of our trial plates, and hence the purity of the currency, as intelligible to all as possible. The subject is necessarily connected with some chemical facts, which, in order to elucidate the subject, I must introduce; but I will do so as sparingly as possible, as it is a generally intelligible and not a chemical account that I am here attempting.

Gold Trial Plate.

In the year 1660 a gold trial plate was made by the Goldsmiths' Company; this was followed by another in 1668, the next in 1707, then again another in 1728, and the last, or new one, in 1829. At each of these respective times a new silver trial plate was also made, nor does it appear that at any time a new gold plate was made without a corresponding silver one, or a new silver plate without a corresponding gold one. It was not to be expected that any two plates made at the same time should necessarily last precisely the same time, as this would depend upon the various comparisons made with either of them to regulate the coin, and this again would depend upon the proportion of gold coin to the silver coin fabricated within a certain time; not as regards the proportionate value of the two, but the numerical amount of each in coined pieces; the greater the number of either, the more frequent the comparisons to be made with the trial plates; for it must be observed, that the trial plates were not solely for the purpose of public comparisons at Westminster Hall, at the "Trial of the Pix," but for the private, though merely occasional, use of the King's assayer at the Mint, in his approximation of the coin to these trial plates. It was not, however, necessary, that although two plates were made at the same time, one alone having been required, that the other should also come into use. Should there be no difference required in the quality of an old and a new plate, there would then be no reason for not continuing the old until by repeated trials it was worn out; and should there be accidentally any difference between them, it might become absolutely necessary to adhere to the old. This may in some measure account for the examination of our coin, for the last century nearly, being made with plates of different dates; the gold plate having been that of 1668, and the silver that of 1728. I mentioned, above, the difficulty that did exist in making trial plates exactly according to law. That difficulty does exist, is proved beyond a doubt; and this may therefore prevent the surprise that would otherwise be felt at the allusion I have just made to a variation in the quality of trial plates, though there was none in the law that prescribed that quality. In order to render what follows more generally intelligible, I wish to make a remark on the mode of examining or ascertaining the exact fineness of the gold plates after their formation, and which is technically called making the assay of them. This remark, though introduced to explain what follows as regards the gold trial plates, holds good likewise in all examinations of gold, of whatever degree of fineness, or, in other words, whatever the proportion of the gold, in reference to any other metals combined with it, may be found to be. There is nothing, I believe, in the word "assay" that implies any particular process to accomplish the result aimed at; it implies nothing more than the ascertaining or determining the proportionate quantity of fine metal in any given mass or quantity, and this by any means most eligible for the purpose. That the term has been usually applied to particular processes is because those processes have been found most suited to the making a correct assay, or determination of the quantity of precious metal in any heterogeneous mass. It will be enough for me here to state, that at the London Mint, as well as at the mints abroad, this process, is performed on the principle of separating from the gold every other metal in combination with it; this being effected by the united agencies of heat, atmospheric air, solution in various menstrua, &c. Gold is mostly found united with portions of silver, varying according to circumstances, certainly, but almost always existing in a greater or less degree. I do not conceive that there is a greater

(A.)
ROYAL MINT.

Appendix, No. 22.
Remarks by Mr. Bingley on Gold and Silver Trial Plates.

affinity between these two metals than between others, though the great certainty of finding them united might almost lead to such a conclusion. In almost all silver, even what is called the finest silver, small quantities or traces of gold are to be met with; and when once united, their complete or perfect separation is a task of very great difficulty. A separation may appear complete, but it is very seldom so. The process for separation or the assay practised at the Mint in this country, approaches perhaps as near to accuracy as the object for which it was introduced requires. With care and attention a constant uniformity is produced, nor is the rapidity with which it is desirable coinage should sometimes proceed thereby interfered with. It is not, however, a perfect process, the result differing to a small extent from mathematical precision. It is to the difficulty of effecting a perfect separation of the silver from the gold that this error is to be attributed; a residuum of silver, after the process of assay has been completed, remains, but it is so small that it is and has been altogether overlooked in the computation of the quality of the gold; and from not being but with the greatest difficulty separated from the gold, and at the same time its existence with the gold being with the greatest difficulty discernible, I am induced to think that its existence with the gold, after the process, is not known in general, either in this country or abroad, and is perhaps unknown at some of the mints in Europe; at all events it is nowhere reckoned upon or allowed for; and wherever known, the knowledge of it must be of comparatively recent date. It was only in the time of the late Mr. Alchorne, King's assayer at the Mint, that this minute imperfection, if it may be so called, was discovered. It was discovered by him, though proved and verified constantly since. The attention and accuracy bestowed by this gentleman on matters relating to his particular occupation enabled him to reduce the art of assay to a correctness never till his time conceived practicable; and the documents on the subject he has left behind him are as important and useful to his successors as his character, his pursuits and his information might lead those who knew him to expect. The discovery of the retention of silver by the gold, and its being considered as gold, was made subsequently to the gold trial plate of 1668, at that time in use as the standard of comparison for our coin; and the very plate itself, on accurate examination, was found to have suffered from the same source of error, as does all gold submitted to the usual examination. The gold with which the trial plate was formed, in all probability, contained this minute portion of silver, at that time not discoverable; and this communicated to the plate itself an inferiority to the real standard prescribed by law, to the whole extent of the silver retained. The extent of silver retained in the usual method of assay is, as near as possible, seven grains in the pound troy. In the following table of comparisons of the fineness of various gold trial plates, I will introduce two reports: one I will call the customary report, such as would be generally given; the other, deducting the silver, though not obtained in the usual manner. What I have said as to the retention of the silver will explain the cause for two reports of the same metals. By the word 'Standard' in this table, I mean only the standard intended by law; and by the words 'Better' or 'Worse' are meant the deviations, to the extent recorded, from this standard.

Gold Trial Plate.

Date.	Customary Report.	Deducting Silver Report.
1660 -	Worse, 13 grains -	Worse, 20 grains.
1668 -	Worse, 5 grains -	Worse, 12 grains.
1707 -	Better, 9 grains -	Better, 2 grains.
1728 -	Better, 6 grains -	Worse, 1 grain.
1830 -	STANDARD - -	Worse, 7 grains.

Note.—To the second column of Reports an addition must be made of four grains of gold absorbed in the cupel; this will bring the last gold trial plate to within three troy grains of *mathematical* accuracy. To have remelted the trial plate, to obviate this minute error, would have been attended, in all probability, with no success or advantage.

It will be apparent from this table, that although the law intended that each of these trial plates should in quality be exactly similar, there is notwithstanding considerable difference between some of them, and that this difference in one instance is to the extent nearly of a pennyweight. These differences in the several trial plates have been for a length of time recorded in the King's assay-office at the Mint, and they have been ascertained by careful and repeated experiments. Until this year the formation of these plates was left, as I before stated, to the Goldsmith's Company, and to them alone. When it recently became necessary that a new gold trial plate should be formed, the old one being nearly exhausted by repeated trials, it appeared to the present Master of the Mint, the Right honourable J. C. Herries, who had been acquainted with all the minutiæ connected with the old plate, and who took the liveliest interest in the formation of an improved plate, it appeared to him only right that the Mint, being so much concerned in the correctness of a trial plate, should have some share in the formation of, or at least should have power to reject, a new plate, unless of a quality as correct as circumstances would allow. This idea was put in force by the Master of the Mint, and the result has been to produce a trial plate that may fairly and

(A.)
Royal Mint.

Appendix, No. 22.
Remarks by Mr. Bingley on Gold and Silver Trial Plates.

justly be called standard. It is called so not only at this Mint, but also at those of Paris and Amsterdam, where, for the sake of confirming the Mint Report, small pieces of the new plate were sent for examination. The new gold plate has been rendered finer than the last by five troy grains in the pound; and although it may still be said to be a little under the real standard, it is not under what would be called standard throughout the whole of Europe, the difference between the one standard and the other being merely to the extent of the very small quantity of silver inseparable by the ordinary means from the gold, and which has therefore, being so small a quantity, and not till recently known to exist, universally been estimated as gold. It might be more satisfactory to those engaged in the regulation of the fineness of the coin of this country, if the state of the trial plate was such as to permit the coin to be as near as possible to mathematical truth; but were the plate now to be altered to accomplish this purpose, it would immediately be considered to be above the prescribed lawful standard, in consequence of the universal practice at all mints of considering that standard which is in reality a little below it. The first effect, therefore, of raising the value of our coin would be, that our continental neighbours would take advantage of us: the coins of this country would take their departure and pay well for the services of the melting-pot on their arrival abroad. The effect of this on our circulation and the necessities of the country would be obvious. After this had continued for some time, the only check it could receive would be by an alteration of the rates and par of exchange. This would, for a length of time, be productive of very great inconvenience. The alteration, were it to take place, would be productive of great inconvenience in the arrangements for time-bargains between buyer and seller, the value of the gold coin being altered since the bargain was effected. Many evils might arise had the change been effected, a change which, after all, could not have been generally understood, much less its necessity explained, as it would have been running counter to the established custom and general modes of computation throughout the whole of Europe. Our new trial plate has been rendered finer than the last; but there appeared many and cogent reasons, in the important interests of this country, not to permit any further alteration, leaving it at that point which general practice and custom unhesitatingly call standard. There are established at the Mint what are called "remedies" for fallibility of workmanship, both as regards the fineness and the weight of the coin. These are to protect those concerned in the several departments connected with the coinage from censure or blame for such slight deviation from the standard as in the rapidity of the coinage is sometimes unavoidable. The new trial plate has been now to a small extent improved in comparison with the old one; but from the time that this slight deficiency in fineness in the old one was rendered certain in the King's assay-office, it became the object of the principal in that office, under the protection of the remedies, to improve the coin a little beyond the plate, to the extent that would make them fully, as they have always been considered, standard. Now the new plate has been improved also; for the future, therefore, it is hoped the two will be even nearer together than in the time of the old plate, both alike and both standard.

Silver Trial Plate.

I now proceed to the subject of Silver, both as regards the trial plates and the coin. In consequence of a change which has taken place in the quality of the silver circulation of this country, this part of the subject becomes, perhaps, more important than that relating to gold; and it is in consequence of this change in the silver that any remarks on the subject, particularly in this form, were considered requisite. It having been necessary to form two new trial plates, and it being of course desirable that no error, if existing in an old plate, should be continued in a new one, the Master of the Mint was made acquainted, in the King's assay-office, with the following facts respecting the quality of the old silver plate, that of 1728, and which for a century has regulated the silver coin of this country, viz. that the quality of the plate of 1728 is considerably above the fineness prescribed for it by law. It contains nearly one pennyweight and a half more fine silver in the pound troy than the law prescribes. The standard of the country should be a mixture of 11 ounces 2 pennyweights of fine silver with 18 pennyweights of coarse metal or alloy. The plate, instead of these proportions, contains 11 ounces 3 pennyweights 12 grains of fine metal with 16 pennyweights 12 grains of alloy; being a deficit of alloy, or a surplus of fine metal, to the extent of a pennyweight and a half in the pound troy, or one-half per cent. It is certainly difficult to account for this error, on the supposition of the standard being formed by a mixture of a definite quantity of fine silver with a definite quantity of alloy. In this case, were the metals pure and the proportions correct, the result ought to have been a correct standard, provided the combination of the two had been carried on with that attention and with that watchfulness against all sources of error which in every mixture of different metals is requisite. It is possible, certainly, that in this case, even supposing that the fine silver was taken in proportion to the alloy according as the law prescribes, 11 ounces 2 pennyweights of fine silver to 18 pennyweights of alloy, and that this silver were absolutely pure and the alloy pure copper, still, in the fusion of the two, the proportions might be altered, and the mixture refined, owing to causes which I have already described as operating when the formation of a gold standard was taking place. The same might take place when preparing a silver standard; but whether the imperfect result is owing to these causes or not, is merely left to conjecture: one thing is certain that the art of assaying at that time was not sufficiently

(A.)
ROYAL MINT.

Appendix, No. 22.
Remarks by Mr. Bingley on Gold and Silver Trial Plates.

ciently advanced to detect the error, from whatever cause it arose. To account, or at least to shew a possible, though not a probable, cause for error in the formation of gold and silver trial plates, I have mentioned the errors that might creep in during the actual combination or mixing of the two metals to produce the standard; but when treating of the gold plate, I alluded to another cause, and a more probable one, for the error; namely, the impurity of the gold itself, its containing a minute portion of silver, though this was not at the time discernible, or even conjectured. I may here remark, the difference in the errors in the old gold and old silver trial plates. The former was a little under or worse than its prescribed quality; the latter was considerably better. Now the effect of ignorance or inattention in the combination of fine metal with alloy would, if it altered the proportions at all, operate in favour of the fine, or in other words, increase the proportion of the fine by the destruction of the coarse or alloy. This, then, cannot have produced both the deviations from correctness observable in the two plates; it would not have debased the gold trial plate, though it may possibly have had something to do with the increase of fineness in the silver. This, however, is by no means certain; and I would wish to state another reason, or venture another mode of accounting for this deviation from the prescribed accuracy. It is not, I believe, upon record, as regards the formation of the silver trial plate of 1728, whether or not it was attempted to be made by a mixture of fine silver with alloy, or whether it was made by combining silver of different qualities together, thereby, by the mixture, averaging or producing between them the intended standard. This mode of producing the standard from ingots of different qualities is in constant operation at the Mint, and may have been the mode that suggested itself as most practicable and easy to form a new plate in the year 1728. If this were the case, the error is at once accounted for; as, owing to the established, though erroneous mode of assaying practised at that time, each ingot was in reality one and a half pennyweight better than it was called or considered; which surplus of fineness would, of course, be communicated to the result obtained by the combination of the two ingots of the differing qualities. This method of accounting for the error in the late silver plate has no authority to sanction it, it is merely stating a probability as to the cause; it may have happened from other sources of error already described. It must have been evident, however, that although the imperfection above mentioned may have had nothing to do with the formation of an imperfect plate, still, had this error not at that time existed, it is most certain that the defect in the plate would have have been at once detected. It may not therefore be out of place to explain a little the nature of this error in reporting silver, and the cause of it, an error which like the error in the gold plate has been discovered and recorded in the King's assay-office at the Mint full 60 years since, but which is even at this time the usual mode of practice, and considered to be correct, not only in this country, but, I may say, universally. If any exceptions to this mode of practice exist, they are on the side of increased error, or greater departure from the true and correct estimate of the proportion of fine silver in any given mixture, by diminishing the alleged proportion of silver. In the estimate of the value of any quantity of silver bullion, or in other words, in ascertaining the exact quantity of silver in any mixture, the method or universal practice at the English as well as foreign mints, is to destroy by chemical means and agencies all substances united with the silver, and by these means to come at once to the proportion the silver alone bore to the whole mixture. Now, in the means employed to obtain this result, it has been well known that a small portion of the silver itself has been unavoidably separated with the baser metals (generally copper) originally joined with it. This affords another instance of the difficulty with which two metals, when chemically combined, are entirely separated. It of course became an object of inquiry to ascertain as nearly as possible the quantity of silver that was separated, or for the time at least destroyed, during the process of examination, that an allowance, when estimating the total quantity of silver originally in the mixture, might be made for the portion lost. This could only be done correctly by attempting, by other means, to regain in its former shape the portion of silver separated from the remainder. This is a subject of great difficulty, and requires the greatest skill and attention, and is subject to repeated failure before an accurate result can be obtained. It is often difficult to trace an error to its source, particularly after its existence has been of long duration; but it is not conjecturing too much when we attribute the error that did exist in the assay in this instance to the extreme difficulty in exactly estimating the quantity of silver lost in the operation of refinement. It may be enough here to say, that the allowance for the silver so lost has been always too small, too small by one pennyweight and a half in the pound. It will follow from this, that all mixtures of silver, whether of coin or bullion, do contain one pennyweight and a half more fine silver than in this country and in other countries (it being not confined to our own) would be assigned to them. The practice is general, and has been of very long duration, and existing at the time of the formation of the silver plate in 1728, it is no wonder that this plate was made subject to the same error; for were it made by the combination of mixtures of different qualities, these mixtures being all so much better than they were considered, would of course add this fineness to the common result; or if the finest silver and the purest copper had been employed, and united in their due proportions, still the plate must have been afterwards submitted to have been verified by the process of assay at Goldsmiths' Hall; and as no error was known at that time to exist in the estimating the proportion of silver in a mixture, in this case the silver in the plate would have been considered too small, the purity of the silver used would have been suspected, a fresh portion would have been added to supply the deficiency, and an error at once produced. According to the general method of estimating the quantity of silver then established, no wonder an erroneous trial plate was formed. This did take place; the coin was necessarily assimilated to it; nor was there any means of obviating or altering the imperfection, till it became, in course

(A.)
ROYAL MINT.

Appendix, No. 22.
Remarks by Mr. Bingley on Gold and Silver Trial Plates.

course of time, necessary to form another silver plate. This error in the silver plate, and consequently the error in the mode of estimating the proportion of silver generally, or in other words, the error in assay, was discovered, in the King's assay-office, some time after that the slight inaccuracy in the gold plate was there also found out. As portions of these plates are always kept in this office, for the purpose of verifying the state of the coin, it became, during an interval of comparative leisure at the Mint, an object, amongst other experiments, to inquire most minutely into the exact state of those plates. This was done, not only according to the usual mode, but in every other way that was likely to promote a just conclusion. The result of these experiments led to the doubting the perfect accuracy also of the silver trial plate: this led to the most diligent re-examinations of the subject, including repeated reproductions of the silver wasted in the process of refinement: to those were added the formation of mixtures of known fineness, to be afterwards examined; so that, both synthetically as well as analytically, the error in the silver plate was made certain beyond the possibility of doubt, and, in comparison with the error in the gold plate, was considerable. This once discovered in the King's assay-office, was not a subject for general remark or notice. It was much too important to be lightly treated or even hinted at. It was an error existing, not only in this country, but in every country of whose mode of estimating bullion this Mint could have any opportunity of judging; and it regarded not only the coin of these countries, but all bullion transactions within them. To the Master of the Mint alone for the time being was the important fact successively communicated; but as the time for a new plate had not arrived, each in his turn strongly insisted that the fact should not be noticed; but, on the contrary, be kept perfectly secret; an attempt to remedy the error, until a new plate was formed, was impracticable; and, had it been once made public, however injurious or inconvenient, an alteration must have taken place, as the error and a general knowledge of the error could not long have existed together. It may be right to mention here that a suspicion of the inaccuracy of our mode of estimating silver arose in the Indian mints about five years since. They were led to this conjecture by the circumstance that when fine silver was united to copper in proportions to form the standard required according to the established rules of assay, this mixture was accounted under standard, by one pennyweight and a half in the pound troy; and as in this case there was no occasion to doubt the purity of the silver employed, this created some doubt of the accuracy of the accustomed process. This led to an official paper on the subject, with a reference to our Mint, as to the correctness of the suspicions entertained. An answer was returned, that these suspicions were well founded; that this error had been known, in the Mint, to exist for the last 60 years; that it had existed ever since the formation of the plate in 1728, though this plate being in existence compelled things to remain as they were till a new plate should be formed. It might have been added, it was only surprising the mints in India had not made the discovery sooner. There can be little doubt but that the mints in India will now assimilate their practice to the improvement introduced in this country, and that the alteration will become farther extended and general.

Before I finish the subject of the silver plate in particular, I wish to add a table, with the reports of the qualities of the different silver plates which are of the same dates, and were formed at the same time, as the gold plates in the previous table. It will be seen that these severally were not only subject to the error observable in the plate of 1728, but that they likewise differed materially amongst themselves, showing the difficulty there was in making them similar at those times, and that, unfortunately, there did not then exist skill sufficient, in the Mint or elsewhere, to detect the variations.

Date.	Customary Report.	Real Report.
1660 -	W. 1½ dwt. -	Standard.
1668 -	W. 1¾ dwt. -	W. ¼ dwt.
1708 -	W. 1¼ dwt. -	B. ¼ dwt.
1728 -	Standard -	B. 1½ dwt. (bare).
1830 -	Ditto -	Standard.

The deviation from a true standard in the trial plate of 1728 is certainly great. To adopt the new system of computation will be doubtless beneficial to the holders of silver bullion at the time of the change taking place. They will gain an advantage to which perhaps they are not strictly entitled. Having bought silver at one report or estimate, they will have the advantage of selling it at an increased estimate of its value. The old system, perhaps, was injurious to none but the original proprietors of it, when first obtained from the ores and from the mines. To them a loss did certainly accrue, as they were not allowed a true estimate of their quantity of silver by this one-half per cent. After the silver had once left its original possessors, it was bought and sold on the same terms, no profit or loss from this source happening to any party. I do not mention this as any reason for continuing a system so remote from accuracy; far from it: reasons much stronger than have been found must be brought forward, before a continuance in an error so great, when a seasonable opportunity has arrived for the change, could be tolerated. The departure from scientific accuracy necessarily imposed upon the coinage of silver has been always painful to those employed in the regulation of that coinage. Mr. Herries, the Master of the Mint, too, could not feel justified in permitting an

(A.)
ROYAL MINT.

Appendix, No. 22.
Remarks by Mr. Bingley on Gold and Silver Trial Plates.

error to continue, that now could be so easily remedied. The credit of the country at large was concerned in its removal, and the more so as it would be the first to set the example. No parties are losers, none unjustly deprived of any expected profit; a portion of silver unaccounted for and hitherto useless, equivalent to a half per cent., is now added to the silver circulation of the country, to be changed from an unproductive to a productive and important capital.

Additional Remarks.

I HAVE now attempted to explain such circumstances connected with the gold and silver trial plates as from any recent alterations in them appeared necessary. It must be gratifying to all to know that nothing has been intended or aimed at but the introduction of greater accuracy as regards the coin and the bullion transactions of this country. This is no tampering, as it is called, with the currency, no paltry attempt by such means to alleviate the distress so greatly complained of; no one feeling has existed but what was for the credit, and the credit alone, of this country. I feel happy in being able to say thus much, and have felt myself bound to offer such information as I had the means of obtaining to those who have experienced any anxiety or interest on the subject.

I have no wish, even if I had the ability, to enter here into questions of currency, or into any of the ramifications connected with our circulating medium. I have confined myself to the object I originally set out with, and which precedes these pages. A few more remarks, and one or two letters at the end, which have passed on the subject, are all I would introduce to notice, to render the subject clear and intelligible. I hope it will have been seen how important a part in the regulation of our coin trial plates occupy, how they compel the greatest care, skill and circumspection. It is true it would be possible, even easy, to those practised in the operation, to continue the coin of this country in any prescribed state of fineness, without having reference or even applying to trial plates as a guide; but then, were this attempted, what proof or satisfaction would the public have that this was fully accomplished, what further satisfaction would they have than was to be found in the confidence they could put in those employed to effect this object? Even to those engaged in regulating the purity of the coin, the knowledge that there was no trial plate, no standard by which at any time their operations might be judged of, and with which the coin might at any time be compared, might possibly operate or tend to remove some little of that attention so constantly requisite, and might in time have an unfavourable influence on the character of the coin. As it now is, these trial plates render all fear on the subject of any depreciation or alteration of the currency unnecessary. To those who have no other means of judging of the probable accuracy of our coin, the unanimous verdict of the Goldsmiths' Company, at the public trial of the pix, relieves them from all doubt. The gold and silver coin are here compared minutely with their respective trial plates, all are similarly treated, subjected to similar agencies, and have hitherto at each successive trial proved themselves fully conformable and similar each the one to the other. The difference in the new plates from the last has of course rendered a trial of the pix necessary, that by the old plates that coin should be compared which was made according to their fineness. From the time the new plates were acted upon at the Mint, from that time the coin must be examined by them; and it will doubtless bear the comparison with as much credit to itself as in every trial with the old plates it has uniformly been found to do. The change in the trial plates (I say plates, though the change in the gold, being so small, scarcely deserves the name,) has happened at a time when the Mint has been more than usually occupied. The views and wishes of the present Master of the Mint have had for their object the facilitating in every way the purposes of coinage. By his introduction of what is called a Mint fund, importers are now paid three-fourths of the value of the bullion they bring to the Mint, at the very time they lodge it there, and the remainder in as short a time as is consistent with the security of the Mint. By an introduction, under the auspices of the master, of the French method of refining, facilities are here likewise offered to importers of introducing bullion of all qualities at a moderate charge for refinement. The gold from South America, discoloured by mixture with palladium or platina, may be now introduced and refined as readily as other mixtures, and applied afterwards to the purposes of coinage. Our bullion is estimated now to the eighth, instead of the fourth, of a carat grain in the pound, approaching near to the French millième, a point beyond which, except for matter of curiosity, no practical operations need extend. The silver trial plate, before the alteration recently taken place, was at a fineness unprecedented in the history of British coins, containing eleven ounces three pennyweights and a half of fine silver in the pound. It is now eleven ounces two pennyweights of fine silver, the lawful standard; and if it had been reduced to eleven ounces alone, to correspond with the gold, and a law had passed to that effect, I am not aware that any great evil could have resulted. Silver not being a legal tender beyond 40 *s.*, is reduced at once to the level of a token, a mere representative of the imaginary divisions of gold, and therefore any further small alteration in its value would be of comparatively little importance. I have mentioned the difficulty with which gold and silver were completely separated, and that in almost all silver bullion a minute portion of gold may be discovered, and that in most gold bullion silver also is discernible; the portions, however, are for the most part very minute, and until lately were almost altogether overlooked. Whether it be owing to the pressure of the times or the necessity for not throwing away the least chance

(A.)
ROYAL MINT.

Appendix, No. 22.
Remarks by Mr. Bingley on Gold and Silver Trial Plates.

chance of any advantage that may arise, it happens now that almost all holders of bullion dive most minutely into the properties of that valuable commodity. Their question is, as regards gold bullion, not only how much fine gold have we here, but is there likewise any silver? The same with holders of silver bullion, does this mixture contain a little gold? We must have this ascertained; surely the distresses and necessities of a country find some relief in the increased exercise of a country's wits in its own behalf. Guineas, sovereigns and dollars have all in their turn been ransacked, to see if they would not afford a valuable metal over and above their lawful composition. Sovereigns white with silver will henceforth, for a time at least, be rarely encountered. The alloy for gold must be alloy in its strictest sense; no silver will be afforded to constitute a portion of it, as has hitherto been the case; we are not now rich enough to consider silver as alloy, and suffer it, as such, to mix with our gold. Copper, and that alone, will constitute the alloy; and the sovereigns, excepting where a small portion of palladium remains mixed with the gold, will be both harder and darker coloured than heretofore. I may add here, that the trial plates not only regulate the coin of the country, but are the standards by which the Goldsmiths' Company regulate all their wrought plate. Portions also of the plates are sent to Scotland and Ireland for the same purpose, and to those towns into which the power of manufacturing gold or silver plate has at any time been granted.

I have added two letters, which were written in an early stage of the proposed alterations of the plates, imagining they might be serviceable, as also affording some additional explanation of the cases under consideration.

King's Assay Office,
Jan. 1830.

Hy Bingley.

LETTER on the Alteration in the SILVER TRIAL PLATE.

As the change that is now taking place in the fineness of the silver coins of this country may not generally be understood, either as regards its necessity or the nature of the change, and at the same time that the alteration is but small, and that from inaccuracy to accuracy, I cannot do better than attempt, in as brief a manner as possible, to render the subject clear and intelligible. I wish it to be understood, that although our gold and silver coins are under regulations in many respects similar, I am confining myself at present to the consideration of silver and the alteration connected with it. It is well known that the coin of this country is of a quality defined and laid down by law, and which stipulates that in every pound of silver for coin (commonly called standard silver) there should be 11 ounces 2 pennyweights of fine silver united with 18 pennyweights of copper (commonly called alloy). This is a mixture which the law of the land has called standard, and which is intended to constitute the quality or fineness of the silver coin of the country. To prevent all possibility of the silver coin from deviating in its fineness from that prescribed by law, there have been made from time to time what are called "Trial Plates," composed of the metals in legal proportion, occasionally to try thereby and examine the coin as it was made and issued from the Mint. These trial plates are ordered to be made with the utmost skill the knowledge and information of the times can then command; and as they are for the standard of comparison with the coins, and are supposed to be the exact quality prescribed by law, both for them and the coins, it is evident the coins must be made as near to them in quality or fineness as art can accomplish. It may not be universally known, that having resolved to adopt trial plates of any certain quality, that quality being brought about by a union of two or more metals, there is some little difficulty attached to the perfect formation or fabrication of such plates. In the first place, should there be wanting any perfect chemical examination as to the purity of the two metals to be joined together, the mixture would in all probability be found incorrect. Should there be the least inaccuracy in the balances or weights used in adjusting the proportions, another source of error arises; and in the combination we find the utmost care and skill requisite to render it complete. It is evident that the trial plate must be uniform as to quality in every part, no one part differing from another. This alone can be effected by the two metals to be united being in a most perfect state of fusion during their combination, requiring great attention to the heat: to this must be added a lengthened stirring of the fluid mass, that by mechanical means a perfect mixture may be effected. Again, care must be taken that atmospheric air be excluded from the mass, or, the copper becoming oxydized, a refinement will take place which would render the plate too fine. Thus it will be seen that several causes of error might arise in the formation of a trial plate; and it will not be so very astonishing that an instance of imperfection in a plate should have occurred. Without entering into the cause of the error, or attempting to explain the reason why it was not at the time detected, it will be sufficient here to say that a trial plate formed in the year 1728, and intended to serve as guide and for the regulation of the quality of the silver money of this country, did contain more fine silver and less copper than the exact proportions authorized and commanded by law, namely 11 ounces 3⅓ pennyweights of fine silver with 16⅔ pennyweights of alloy in the pound, instead of 11 ounces 2 pennyweights of fine silver and 18 pennyweights of alloy in the same quantity. As it is to be hoped that during a century this country has advanced in art and science most materially perhaps at so remote a time a mistake like the one above had not the chance of being discovered as at present. This, then,

(A.)
Royal Mint.

Appendix, No. 22.
Remarks by Mr. Bingley on Gold and Silver Trial Plates.

is the whole cause of error in our silver coinage. The silver, being compelled by law to be like the trial plate, of course varies from the true standard in the same way as the trial plate of 1728 does, both the silver coin and the plate containing one and a half pennyweight too much of fine silver in the pound. This error of both the plate and the coin has been discovered and recorded in the King's assay-office for more than 60 years. It has been mentioned to the successive masters of the Mint; but in consideration of the evil attendant on a change in the currency, especially when that change is a deterioration, and knowing how difficult it is to enable the public to clearly comprehend the nature of the change, and with what suspicion they regard a change at all, it was thought right to conceal the fact till the time came for a new plate to be made. This has just happened, by the old one being exhausted; and the present Master of the Mint, the Right Hon. J. C. Herries, thinks it right the change should now be made, and that the new trial plate and the future silver coin should return to their former and authorized state, containing the exact proportions established since the time of Elizabeth, and from which during the last 100 years they have somewhat departed. I will not now say anything as to the effect of the change generally; and as gold is the measure of value in this country, it makes it less important. I hope I have fulfilled my intention of explaining to you the nature and cause of the change in the silver currency, and which reduces it now to its intended accuracy; and remain,

H. B.

December 1829.

Commission des Monnaies.

Paris, le 26 9bre 1829.

Monsieur le Baron,

J'ai chargé le directeur des essais des monnaies de soumettre aux analyses comparatives indiquées par M. Bingley, essayeur de la monnaie de Londres, le morceau d'or et le morceau d'argent que vous aviez joints à votre lettre du 19 courant.

Jai l'honneur de vous addresser ci-joint le rapport de M. d'Arcet en vous priant de le remettre à M. Bingley ainsi que les morceaux résidus d'or et d'argent inclus dans le paquet ci-annexé.

Recevez, Monsieur le Baron, mes remerciments pour votre complaisance à faciliter les renseignements que nous desirions obtenir, afin de comparer les modes d'essai suivis en France et en Angleterre: il peut en resulter des lumières et des avantages reciproques, pour les progrès de cette partie importante de l'art monétaire.

A Monsieur le Baron Seguier, consul-général en Angleterre, en temoignant notre reconnaissance à Mr. Bingley, veuillez l'assurer de mon empressement à lui faire fournir tous les documens qu'il pourra desirer, et que nous comptons sur la continuation de ses interessantes communications.

Je suis, avec la consideration la plus distinguée, Monsieur le Baron,

Votre très humble et obeissant serviteur,
Le Pair de France,
President de la Commission des Monnaies,
Cte de Sussy.

Le morceaux d'or et d'argent envoyer à la Commission des Monnaies par Mons. Bingley, essayeur du Roi à la Monnaie de Londres, ont donné les resultats suivans:

L'or, par le procedé habituel, et sur deux essais, $916\frac{62}{100}$ millièmes.
En passant deux acides à 32, et sur deux essais, 916 millièmes.
L'argent, par le procedé habituel, et sur deux essais, 922.25 millièmes.
En compensant la perte qui a lieu sur ce titre par la coupellation, 925 millièmes.

Le Directeur des Essais,
25 9bre 1829. (signé) *D'Arcet.*

Ne—Le procedé de compensation étant inusité en France, on là suivi en prenant pour base des syntheses faites à ce titre avec des metaux fins et sur la demande renfermée dans la lettre de Monsieur Bingley.

Sous copie conformé la commission-général,
R. Frune.

— Appendix, No. 23. —

A Comparative Statement of the Salaries and Allowances, Contingent Expenses, and Rates of Coinage, between the Establishments of the French and English Mints, 1836.

FRENCH ESTABLISHMENT.					ENGLISH ESTABLISHMENT.			
Officers appointed on the Commission:								
Personal:		Francs.	£.	s. d.		£.	s.	d.
The President		18,000	750	– –	The Master and Worker	2,000	–	–
The Commissioners General		10,000	416	13 4	Principal Officers forming a Board, &c.			
Laboratory of Assays:					The Deputy Master	800	–	–
The Director of Assays, taking also duties as Commissioner		10,000	416	13 4	Comptroller	600	–	–
Inspector Verificator		7,000	291	13 4	King's Assay Master	750	–	–
First Assayer		5,000	208	6 8	King's Clerk	400	–	–
Second ditto		5,000	208	6 8	Superintendent of Machinery and Dies	700	–	–
Assistant Assayer		2,500	104	3 4	Officers in the Service, &c.			
Servant, or Fireman		1,000	41	13 4	The Master Assayer	400	–	–
Office:					Probationer Assayer	200	–	–
Chief Clerk to Commissioners		5,000	208	6 8	Weigher and Teller	200	–	–
Clerks of all classes, from 1,200 to 4,000		12,000	500	– –	Surveyor of Meltings	200	–	–
Messengers and Inferior Servants, from 1,000 to 1,200		2,200	91	13 4	Surveyor of Money Presses	200	–	–
	£.	77,700	3,237	10 –	Chief Engraver	350	–	–
The Engraver-General		Receives no salary, is paid on the dies delivered.			Second Engraver	273	–	–
The Director of the Coinage		Receives no salary, is paid for the fabrication by a rate.			Medallist	300	–	–
No. of Persons.					Clerk Assistant and Deputy Master	200	–	–
13	Commissioners of the King appointed to each Mint	62,000	2,583	6 8	Four Clerks in Mint Office	580	8	–
13	Comptroller of Change	36,600	1,525	– –	Bullion Porter, Mint Office	70	–	–
13	Comptroller of Coinage	31,200	1,300	– –	Second Porter, Packing Office	52	–	–
1	Assistant to the Commission, Paris	4,000	166	13 4	Fireman, King's Assay Office	88	–	–
1	Verificator of the Puncheons and Dies	3,000	125	– –	Ditto, Master's Assay Office	62	–	–
4	Clerks under the King's Commission, Comptrollers of Change and Coinage, and Messengers	4,600	191	13 4	Office-keeper and Sweeper, &c.	90	–	–
18	Porters and Servants in the employ of the different Mints	14,200	591	13 4	Master's Clerk and Melter, &c., receive a Rate on the Coinage	nil.		
4	A Conservator, Comptroller of the fabrication of Medals, Overseer for the receipt of the Dies and Puncheons, and Keeper of the Museum	12,000	500	– –	Ditto Second Clerk & Probationer Melter	80	–	–
1	An Inspector of the Guarantee	4,000	166	13 4	Company of Moneyers receive a Rate on the Coinage; conditionally 40*l.* to each member when the Coinage is under 500,000*l.*	—		
1	A Verificator Clerk	3,000	125	– –		£. 8,595	8	–
	Supplementary extra Assayers	20,000	833	6 8	Law Department:			
	£.	194,600	8,108	6 8	The Solicitor	800	–	–
					Assistant Solicitor	300	–	–
					Clerk to Solicitor	200	–	–
						£. 1,300	–	–
					The Stamper of Money Weights	120	–	–
					Minister and Sexton of the Tower Chapel	15	–	–
						£. 135	–	–
					Wages and Allowances:			
					Messengers, Mint Office	328	18	–
					Gate Porters and Watchmen	473	2	–
					Packing and Copper Office Workmen	162	15	–
					Die Department, Smiths and Workmen	973	12	–
					Engraver's Assistant	226	4	–

(continued)

FRENCH ESTABLISHMENT.

Contingent Expenses:	Francs.	£.	s.	d.
For Charcoal, Lead, Acids, Cuppels for the Laboratory and Assay Officer	10,000	416	13	4
For Puncheons, Matrixes for the Coins, Multiplication of Dies, for Medals, Allowances, and Accessory Expenses	22,000	916	13	4
For Weights and Balances, and loss in the pieces taken for Specimens for trial	2,500	104	3	4
For visiting and travelling Expenses for the Guarantee	2,000	83	6	8
For the transfer and moving of Officers to different Mints	4,000	166	13	4
For disbursements in the Offices of the King's Commissioners	2,000	83	6	8
For Fuel and Lighting the different Offices	9,000	375	–	–
For Repairs of Buildings	28,000	1,166	13	4
For the Carriage of Boxes, &c.	1,500	62	10	–
For unforeseen Expenses, purchase of French and Foreign Monies for ascertaining the Standard	8,000	333	6	8
	88,000	3,666	13	4

Charges for Coinage:

The public has no other expense to pay for the charge of coinage than the sums which are retained out of the monies, delivered according to the rates allowed by the law, and which are as follow; viz.

6 Francs per Kilogramme for gold, and
2 ditto - ditto - for silver;

or, in other words,

		Francs.	Difference retained.
The Kilogramme gold coined at $\frac{9}{10}$ fine	Value - -	3,100	6 f.
	Paid in change -	3,094	
The Kilogramme silver coined at $\frac{9}{10}$ fine	Value - -	200	2 f.
	Paid in change -	198	

Note.

The Kilogramme is equal to 32 oz. 3 dwts. 4 grs. Troy = 15,436 grs. Troy.

Gold:—as 15,436 grs.: 6 fr., or 5 *s.*:: 1 lb., or 5,760 grs.: 1 *s.* 11 *d.* (instead of 4 *s.* 4 *d.* per lb. English charge).

Silver:—as 15,436 grs.: 2 fr., or 20 *d.*:: 1 lb., or 5,760 grs.: 7½ *d.* (instead of 1 *s.* 5 *d.* per lb. ditto).

In France, the gold is coined at less than ¼ per cent.
Ditto, the silver ditto at less than 1 per cent.

In England, the gold is coined at 9 *s.* 2 *d.*, about ½ per cent.
Ditto, the silver ditto at 2 *s.* 2 *d.* 11, or 2⅛ per cent.

ENGLISH ESTABLISHMENT.

Wages and Allowances—*continued.*	£.	s.	d.
Assayers, extra Firemen	61	16	–
Weigher and Teller, Labourer	70	4	–
Gas Works, Superintendent and Labourers	169	18	–
Artificers in care of Machinery	697	10	4
Ditto, polishing Dies	60	2	–
Water Pumper, Great Cistern	13	–	–
Allowance for care in Receipt of Coals	3	5	–
Ditto, Master of the Watch	5	–	–
Mowing and rolling Grass Plot	6	–	6
£.	3,251	6	10

Contingent Expenses:				
Disbursements and Incidental Expenses for Materials and Necessaries provided for the Assay, Die, Mint, and other Offices, consisting of,				
Water Silver, Acids, Charcoal, Coals, Weights and Scales, Money-bags, Boxes, Cartage, Shipping, Cast Steel for Dies, Copper for Alloy, &c.				
Disbursements	£. 299	17	10	
Incidents	1,579	13	3	
				1,879 11 1
Artificers' Bills for Repairs and Work done to Dwellings, Houses and Buildings				2,451 17 7
New Machinery				110 18 –
New Standard Weights	£. 84	–	–	
Rates and Taxes	1,013	3	2	
Brokerage, Purchase of Silver	401	5	1	
Treasury Fees	18	7	3	
£.				4,441 16 8

Charge of Coinage:

The charges of coinage are paid by Government; the Master of the Mint enters into an indenture with the King for coining the several denominations of the monies, at the rates per lb. weight set forth in the following table; viz.

	GOLD.				SILVER.			
	£. 5. Piece.	Double Sov^n.	Sovereign.	Half Sov^n.	Crwns.	Half Crwns.	Shillings.	Sixpences.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Moneyers	3 –	3 –	3 6	4 6	– $10\frac{6}{12}$	– $10\frac{6}{12}$	1 2	1 $4\frac{6}{12}$
Melter	– $8\frac{8}{12}$	– $8\frac{8}{12}$	– 10	– $11\frac{4}{12}$	– $2\frac{1}{12}$	– $2\frac{4}{12}$	– 3	– $3\frac{8}{12}$
Master's Fees	1 10	1 10	1 10	1 10	– $3\frac{3}{12}$	– $3\frac{3}{12}$	– $3\frac{3}{12}$	– $3\frac{3}{12}$
Surplus	– $5\frac{4}{12}$	– $5\frac{4}{12}$	– $6\frac{3}{12}$	– $7\frac{3}{12}$	– $1\frac{8}{12}$	– $1\frac{3}{12}$	– $2\frac{3}{12}$	– $2\frac{7}{12}$
	6 –	6 –	6 $8\frac{1}{4}$	7 $10\frac{1}{2}$	1 $5\frac{4}{4}$	1 $5\frac{3}{4}$	1 $10\frac{1}{2}$	2 2

The smaller monies in the same proportion, according to the numerary.

The Master's fees are carried to account and paid into the Exchequer. The surplus is carried in aid of the expenses of dies, &c.

The actual charges therefore for coinage are, viz.

		s.	d.	s.	d.
Gold—For Sovereigns	Moneyer's charge	3	6	4	4 per lb.
	Melter's - ditto	–	10		
Silver—For Shillings	Moneyer's charge	1	2	1	5 per lb.
	Melter's - ditto	–	3		

FRENCH ESTABLISHMENT.

Abstract:	Francs.	£.	s.	d.
Salaries to the President and Commission	77,700	3,237	10	–
Salaries to Officers in the service of the Department	194,600	8,108	16	8
Contingent expenses and allowances	88,000	3,666	13	4
	360,300	15,013	–	–

ENGLISH ESTABLISHMENT.

Abstract:	£.	s.	d.	£.	s.	d.
Salaries to the Master, Officers, and Clerks on the Establishment				8,595	–	–
Salaries to the Solicitor, Assistant and Clerk	1,300	–	–			
Salary to Stamper of Money-weights	120	–	–			
Minister and Sexton of the Tower	15	–	–			
	1,435	–	–			
Wages and Allowances to Messengers, Porters, Watchmen, Smiths, Labourers about the Dies, Artificers for Machinery, &c.				3,251	6	10
Contingent Expenses in providing Materials, Necessaries, repairs of Buildings, Machinery, &c.				4,441	16	8
			£.	16,288	3	6

Mint-Office, April 1837.

Jas. W. Morrison.

—Appendix, No. 24.—

CORRESPONDENCE relative to the Coinage of One Million of Crown Pieces.

To the Lords Commissioners of His Majesty's Treasury, &c. &c. &c.

My Lords,

Letter from J. C. Herries, Esq., to the Lords of the Treasury.

The Duke of Wellington and the Chancellor of the Exchequer having communicated to me, as Master of the Mint, the desire of His Majesty's Government, that preparations should be made for coining a certain quantity of silver crown pieces, to be held in readiness to supply any deficiency in the circulating medium, which might be experienced in certain districts at the period when one pound notes will cease to be issuable, I have to request that you will give the necessary directions for supplying to the Mint such quantities of silver as may be sufficient for that purpose.

As it is only partially that assistance of this nature is likely to be required, if at all, it appears to be the opinion of the persons most competent to form a judgment upon the subject, that a coinage of one million of crown pieces will be quite adequate to the object for which this precautionary measure is intended.

At the present price of silver in the market, namely, about 4*s.* 11 $\frac{3}{4}$ *d.* per ounce, there would be a considerable profit upon the issue of such a coinage; and as I understand that silver may be purchased for the purpose, payable by bills at six or eight months' date, (bearing an interest of four per cent. per annum,) the circulation of the coin would probably furnish the means of paying the principal and interest of the outlay before the bills become due, in which case there would be no necessity for any advance out of the supplies of the year for this purpose.

I have, &c.

Royal Mint, 15 August 1828. (signed) *J. C. Herries.*

Sir, Treasury Chambers, 15 August 1828.

Letter from J. Stewart, Esq., to the Master of the Mint.

I am directed by the Lords Commissioners of His Majesty's Treasury to acknowledge the receipt of your letter of the 15th instant, requesting that directions may be given for supplying the Mint such quantities of silver as may be sufficient to enable you to coin one million of crown pieces.

I am directed by their Lordships to acquaint you, that they entirely concur in the suggestions offered in your letter; and they propose to direct the acceptance of bills, to be drawn at the period of eight months' sight, by the parties who may furnish the silver for the purpose of coining one million of crown pieces, upon the production of the certificate signed by you of the quantity of silver deposited at the Mint by them respectively, accompanied with a statement of the value agreed to be paid for the said silver.

I am, &c.

The Master of the Mint. (signed) *J. Stewart.*

Sir, Treasury Chambers, 19 August 1828.

Letter from J. Stewart, Esq., to the Master of the Mint.

Messrs. Rothschild having offered to supply to His Majesty's Mint bar-silver to be coined into crown pieces, at the rate of sixty-pence per ounce of standard silver, to deliver one half immediately, and the remainder in six weeks, and in reimbursement to receive Treasury bills drawn at eight months' date, bearing interest at the rate of 4 per cent. per annum, on your certificate that the silver has been deposited at the Mint, I am commanded by their Lordships to acquaint you that they have accepted the offer.

I am, &c.

The Master of the Mint. (signed) *J. Stewart.*

STATEMENT of the Proceeds from the Coinage of a portion of the Silver Bullion purchased from Mr. *Rothschild*, showing the Profit on the Portion coined, after paying the Interest on the whole Purchase, per Contract.

Dr. The Mint Office.
For the Sale and Coinage of 250,000 *l.** value of Silver Bullion, purchased of Mr. Rothschild, between the 2d September and 6th November 1828.

Per Contra. Cr.

1829:	£.	s.	d.
To silver bullion sold to the Bank of England, 50,017 lbs. 11 oz. 4 dwts., at 5 *s.* per oz. - - - - -	150,053	16	–
To proceeds from the coinage of silver, viz. 33,315 lbs. 4 oz. 16 dwts., coined at the rate of 66 *s.* per lb. - -	109,940	12	–
£.	259,994	8	–

1829:	£.	s.	d.
By payments in gold monies for the use of the gold coinage fund -	250,053	16	–
By charge of coinage; viz. 33,315 lbs. 4 oz. 16 dwts. into shillings, at 1 *s.* 10½ *d.* per lb. -	3,123	6	–
By interest on bills accepted at the Treasury, 250,000 *l.* for eight months, at 4 per cent. - - -	6,666	12	10
By balance - - - - -	150	13	2
£.	259,994	8	–

* *Note.*—The total standard weight purchased of Mr. Rothschild, 83,333 lbs. 4 oz. at 5 *s.* per oz., 250,000 *l.*

Sold to the Bank at	*lbs.*	*oz.*	*dwts.*	£.	s.	d.
5 *s.* per oz. - -	50,017	11	4	150,053	16	–
Reserved for coinage at 5 *s.* per oz. - -	33,315	4	16	99,946	4	–
Lbs.	83,333	4	–	250,000	–	–

Mint Office, 12 February 1830.

Letter from G. R. Dawson, Esq., to the Master of the Mint.

Sir, Treasury Chambers, 24 February 1830.

The Chancellor of the Exchequer having recalled to the recollection of the Lords Commissioners of His Majesty's Treasury, the arrangements which were made in the year 1828 to procure a supply of silver for coinage at the Mint, in anticipation of an increased demand upon the cessation of the issue of country bankers' notes for smaller sums than 5 *l.*; under which arrangement their Lordships accepted bills, payable in 1829, for 256,666 *l.* 12 *s.* 10 *d.*, which bills were charged upon the Extraordinaries of the Army in 1829, and, until by the coinage and issue of the silver, the value thereof should be received at the Mint, and applied in the liquidation of the payment so made; the demand for silver money not having arisen in this country, a portion of the bullion, to the extent of 150,053 *l.* 16 *s.*, was sold, under the direction of this Board, to the Bank of England, and the remainder was coined, under the same authority, into silver money for the colonies: this money was transmitted to the colonies, and the value thereof paid out of Army Extraordinaries to you. The whole amount produced by the sale and coinage of this silver bullion is now, therefore, in deposit at the Mint. And Mr. Goulburn having at the same time laid before my Lords an account which he has received from you, from which their Lordships perceive, that after repaying to the Army Extraordinaries the 256,666 *l.* 12 *s.* 10 *d.*, and defraying all the expenses attendant upon the coinage before mentioned, there will remain a balance in favour of the public upon this transaction of 150 *l.* 13 *s.* 2 *d.*

The monies remaining in your hands, as above described, having been left in your department as a coinage fund, to enable you to give those facilities in the speedy coinage of gold for individual importers, which it was the object of the Minute of this Board of the 17th February 1829 to afford, I am commanded by my Lords to desire, that an account be rendered to this Board of the manner in which the same has been employed; the quantity of gold coined for private importers since the date of that Minute; and of the regulations under which their instructions have been carried into effect. My Lords are of opinion, that you should retain the before-mentioned balance of 150 *l.* 13 *s.* 2 *d.*, to be applied in aid of the expenditure of the Mint, and that the sum of 256,666 *l.* 12 *s.* 10 *d.*, the coinage fund which remains in your hands, should be considered as a balance of Army Extraordinary money, subject to repayment to the Paymaster General whenever my Lords shall give directions for that purpose.

It will be proper, therefore, that the amount of the bills paid for this silver, which forms no part of the Army Extraordinary expenditure, although paid in the first instance out of that fund, should be excluded from the account thereof, and should be exhibited in your accounts.

I am, &c.

(signed) *Geo. R. Dawson.*

The Master of the Mint.

(A.)
ROYAL MINT.

Appendix, No. 24.
Letter from J. W. Morrison, Esq., to G.R. Dawson, Esq.

Sir, Mint Office, 8 March 1830.

In obedience to the commands of the Lords Commissioners of His Majesty's Treasury, conveyed to the Master of the Mint in your letter of the 24th February last, on the subject of the arrangements which were carried into effect for the sale and coinage of the silver supplied to the Mint in the year 1828, and for appropriating the proceeds thereof as a coinage fund, for affording facilities to private importers of gold into the Mint, and desiring that a statement should be rendered of the measures which have been pursued by the officers of the Mint for carrying their Lordships' intentions into effect in respect to the said fund;—

I am directed by Mr. Herries to transmit to you, for their Lordships' information, the enclosed papers, showing the manner in which the monies left with the Mint for the coinage fund have been employed, and the regulations under which gold has been received into the Mint from private importers.

By the Paper No. 1. their Lordships will perceive, that the several sums received on account of the silver, to the amount of 256,666 *l.* 12*s.* 10*d.*, have been appropriated to the use of the coinage fund, the same being considered as a balance of money subject to repayment, whenever their Lordships shall give directions for that purpose.

That by the operations of the fund, the sum of 1,866,064 *l.* 0*s.* 5*d.* has been paid to private importers immediately on the receipt of the gold bullion delivered by them into the Mint, between the 17th February 1829 and the 1st March 1830, and that a profit of 1,653 *l.* 2*s.* 3*d.*, up to the 31st December 1829, has been derived on the coinage of the said gold, which sum has been carried to the charge part of the master's cash account, in aid of the fees payable to the master's assayer and other small contingencies, which used formerly to be paid by the importers, the importer being thereby relieved of that expense. That in further benefit to the private importer, a regulation has been established by Mr. Herries, in concurrence with the Bank of England, for reporting the fineness of gold sold in the market to one-eighth of a carat grain in the pound, instead of one-quarter of a carat grain, which was the lowest denomination at which the assayers reported the fineness of gold. By this regulation an advantage is derived to the seller or importer of gold into the Mint, by obtaining a better report of the value of his gold than could be allowed under the old mode of reporting.

The Paper No. 2. contains the regulations under which the gold is received into the Mint from the private importers.

Their Lordships will thus see, that, by the establishment of the fund, great encouragement has been given to the importation of gold into the Mint for coinage into sovereigns, in fulfilment of the object specified in your letter.

The management of the service, although obviously attended with much additional trouble in the accounts and calculations to the officers of the Mint, has been attended with no other additional expense than the continuance, under their Lordships' sanction, of two extra clerks, who were already necessarily employed in the service of the office.

If the measures which have been pursued in regard to the coinage fund should be approved by their Lordships, I am to request you will please to submit to their Lordships the necessity of their authority for the same, in order that the accounts of the Master of the Mint, which embrace the receipts and payments relating to the fund, may be passed and allowed by the Commissioners for Auditing the Public Accounts.

I have, &c.

G. R. Dawson, Esq.,
&c. &c. &c.

(signed) *Jas. W. Morrison.*

(1.)—AN ACCOUNT of the manner in which the Monies deposited in the GOLD COINAGE FUND have been employed, and showing the Payments made out of the said Fund to private Importers of Gold into the Mint, from the 17th February 1829, to the 1st of March 1830.

Manner in which the Monies deposited in the Gold Coinage Fund have been employed.

DEPOSITED IN THE GOLD COINAGE FUND.	£. s. d.
Gold monies received from the Bank of England in exchange for the silver sold to the Bank	150,053 16 –
Gold monies received for the payment of the silver coin delivered to the Commissariat Department	100,000 – –
Gold monies in part of the profit derived by the coinage of the silver	6,612 16 10
Making the total monies appropriated to the fund, the same being a balance of monies subject to repayment to the Treasury, when required by their Lordships	256,666 12 10
Amount of gold monies delivered into the fund, coined out of the bullion received from private importers; viz.:	
Between the 17th Feb. and 31st Dec. 1829 £. 1,425,137	
Between the 1st Jan. and 1st March 1830 196,981	
	1,622,118 – –
Amount of bullion remaining uncoined, received on account of the gold coinage fund	245,599 2 8
£.	2,124,383 15 6

(A.)
Royal Mint.

Appendix, No. 24.
Correspondence respecting Coinage of Silver.

Payments out of the Gold Coinage Fund.	£.	s.	d.
Gold monies delivered to private importers on account of bullion received at various times; viz.			
Between 17th Feb. and 31st Dec. 1829 - £. 1,521,003 14 5			
Between 1st Jan. and 1st March 1830 - 345,060 6 –			
Making the total payments out of the fund to private importers to the 1st March 1830	1,866,064	–	5
Profit on the coinage up to the 31st Dec. 1829, carried to the charge part of the Master's account, for paying Assayers' fees and contingencies, formerly paid by the importer	1,653	2	3
Gold monies remaining in the fund on 1st March 1830 £. 11,067 10 2			
Bullion remaining uncoined on account of the fund on the 1st March 1830 - 245,599 2 8			
	256,666	12	10
£.	2,124,383	15	6

(signed) *Jas. W. Morrison*, Dep. Mr. and Wr.
John Barton, Comptroller,
Thos. P. Croasdaile, King's Clerk.

Mint Office, 8 March 1830.

(2.)—REGULATIONS for Private Importers bringing Gold to the Mint, in reference to the Gold Coinage Fund.

Regulations for Private Importers bringing Gold to the Mint.

No importer is allowed to bring into the Mint a less quantity of gold than 10,000 *l.* value.

If the gold consists of foreign coin or bullion, which requires to be melted or refined before it can be assayed, it must be deposited with the melter, and the charge of melting the gold into bars or ingots paid by the owner.

If the gold brought into the Mint-office consists of ingots properly melted and fit for operation, the owner is paid immediately in gold coin, out of the coinage fund, three fourths of the estimated value of his bullion.

Note.—Should the fund be exhausted by the largeness of the importations, so that immediate payment to the importer could not be made, he must wait till the fund be replenished; and if there are several importers, they must be paid according to the priority of the dates of their bills.

The fineness of the gold brought in by the private importer must be tried by the King's Assay Master, and, upon his report, a Mint bill is prepared, testifying the weight and fineness of the several respective ingots, the standard weight, according to what is called the trade assay, and the value, computed at 3 *l.* 17 *s.* 10½ *d.* per oz.

The remain or balance due to the owner is then paid in gold monies out of the fund, and a receipt for the payment indorsed on the bill by the importer.

The fineness of the gold is then tried by the Master's Assay Master, and, upon his reports, an entry is made in the Mint books, showing the weight and fineness of the several ingots, and the standard amount, according to the Mint assay.

The gold is then passed into work for the coinage, and the proceeds, at each delivery into the Mint-office by the moneyers, are paid to the use of the gold coinage fund.

The fund is placed under the custody and supervision of the deputy master, comptroller and king's clerk, who sign the Mint bills.

Note.—The assays of gold in the trade were reported till lately at not less than one-quarter carat grain, which is equal to 15 troy grains; any intermediate fineness between 1 and 15 grains was lost to the seller. By a regulation of Mr. Herries, in concurrence with the Bank of England, the trade assays are now reported to one-eighth of a carat grain, so that the seller can lose only any intermediate fineness between one and seven and a half grains, being an average in his favour of about 1 *s.* 3 *d.* per cent.

Under the Mint assay for coinage, the gold is calculated to the full extent of the fineness in the metal, which contains an advantage over the trade assay, at an average of about 1*s.* 3*d.* per cent.

The profit derived thereon is to be carried to the charge part of the master's account, in aid of the payment of the fees to the master's assayer and bullion porter, and which charges were formerly paid by the private importer.

Mint Office, 5 March 1830.

289

(A.)
ROYAL MINT.

Appendix, No. 25
Return to Inquiry of Committee, "Who pays for the Alloy supplied?"

— Appendix, No. 25. —

RETURN to the Inquiry of the Committee, "Who pays for the Alloy supplied?"

Mint Office, 1 May 1837.

IN answer to the inquiry of the Committee, "Who pays for the alloy supplied?" it is provided by the indenture of the Mint, that in all cases where bullion is brought to the Mint for coinage, the Master of the Mint is bound to make it "agreeable in fineness to the several standards aforesaid, so that the charge be borne and sustained out of the sums to be issued out of the Exchequer:" and in conformity thereto, the charge for providing copper for alloy, or refining the metal to bring it to standard, is borne by the public.

Jas. W. Morrison,
Deputy Master.

— Appendix, No. 26. —

A RETURN, showing the Value of the MATERIALS and LABOUR supplied to the King's Assay Master, and to the Master's Assay Master, in each of the last Fifteen Years, from 1821 to 1835, both included.

KING'S ASSAY MASTER.

YEAR.	Water Silver.	Melting and Annealing Pots, Muffles, &c.	Glasses.	Acid.	Lead.	Bone Ash and Cupels.	Charcoal.	Labour.
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.		£. s. d.
1821	573 15 –½	21 – –	30 17 –	277 2 2	13 4 –	65 16 –	£.247. 10. *Note.*—The Accounts of Charcoal supplied for the Mint in each year include the Quantity used not only in the Assay Offices, but also for the Die Department; an average has, therefore, been taken for each Assay Office, founded on the Returns made from each Office.	62 8 –
1822	187 14 11¾	13 5 –	7 9 6	124 8 11	9 3 6	55 10 10		62 8 –
1823	269 8 4	14 7 6	5 11 6	170 2 4	9 2 2	32 19 10		62 8 –
1824	187 16 10¾	15 – –	- - -	87 3 –	- - -	- - -		62 8 –
1825	206 9 7	7 12 –	11 8 11	146 9 10	- - -	67 7 –		62 8 –
1826	319 2 1	17 18 6	17 5 –	200 3 6	4 1 6	49 4 –		62 8 –
1827	132 10 –	19 4 10	8 7 2	105 10 2	4 3 9	12 – –		62 8 –
1828	191 – 5	12 9 –	9 9 3½	106 4 11	8 6 –	30 14 –		62 8 –
1829	161 4 2	16 10 6	13 9 –	153 13 2	3 18 5	44 12 –		62 8 –
1830	298 2 6	8 14 –	14 1 10	143 12 2	3 8 3	44 18 –		62 8 –
1831	83 18 4	5 3 –	10 19 –	52 8 11	3 – –	31 7 –		62 8 –
1832	258 7 6	10 3 4	18 11 –	154 12 2	3 – 4	42 17 6		62 8 –
1833	145 15 –	15 16 6	17 2 6	82 5 2	3 1 3	44 8 –		62 8 –
1834	55 4 2	12 12 –	7 7 1	24 3 9	3 2 –	19 – –		62 8 –
1835	83 18 4	- - -	7 3 9	63 14 3	- - -	20 2 6		62 8 –
£.	3,154 7 4	189 16 2	179 2 6½	1,891 14 5	67 11 2	560 16 8	3,712 10 –	936 – –

Total Expense, £.10,691. 18*s.* 1½*d.* Average per year, £.712. 15*s.* 10*d.*

MASTER'S ASSAY MASTER.

YEAR.	Water Silver.	Melting and Annealing Pots, Muffles, &c.	Glasses.	Acid.	Lead.	Bone Ash and Cupels.	Charcoal.	Labour.
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
1821	199 3 3¼	10 6 –	9 14 –	121 3 8	4 9 –	7 10 –	—	—
1822	88 5 9¾	1 – –	- - -	54 13 1	4 12 10	7 10 –	—	—
1823	6 12 6	- - -	- - -	5 1 11	2 7 6	18 10 –	—	—
1824	88 3 11	10 3 –	2 8 4	49 9 11	- - -	6 15 –	—	—
1825	69 11 3	- - -	- - -	41 11 5	2 12 8	7 11 6	- - -	27 18 –
1826	122 11 3	- - -	1 14 5	71 11 7	2 3 –	30 6 –	- - -	58 14 –
1827	33 2 6	- - -	- - -	23 10 3	- - -	4 10 –	- - -	15 – 8
1828	29 16 3	- - -	2 8 6	17 5 9	2 2 9	- - -	74 5 –	48 7 6
1829	59 12 6	7 11 6	- - -	37 18 8	- - -	- - -	- - -	74 8 –
1830	33 2 6	- - -	- - -	26 15 5	1 14 4	3 – –	- - -	71 12 6
1831	26 10 –	- - -	2 3 6	9 12 4	- - -	- - -	- - -	31 18 –
1832	72 17 6	4 10 –	- - -	42 7 11	- - -	21 10 –	- - -	18 12 –
1833	19 17 6	- - -	- - -	16 17 5	- - -	- - -	- - -	4 8 –
1834	- - -	- - -	- - -	1 2 11	1 16 5	17 9 –	- - -	3 4 –
1835	26 10 –	- - -	- - -	13 19 –	- - -	4 2 6	- - -	3 – –
£.	875 16 9	33 10 6	18 8 9	533 1 3	21 18 6	128 14 –	1,113 15 –	357 2 8

Total Expense, £.3,082. 7*s.* 5*d.* Average per year, £. 206. 3*s.* 2*d.*

Mint Office,
26 April 1837.

Jas. W Morrison,
Deputy Master.

— Appendix, No. 27. —

A RETURN of the Amount of Fees received for private Coinage, and the manner in which the same was divided, and the Persons to whom paid, and how much each received in each Year, from 1816 to 31st December 1836.

OFFICERS receiving Fees on Private Coinages.	From 1816 to 31st December 1836.												Total Amount received by each Person.		
	1826.			1832.			1833.			1834.			1835.			1836.					
	£.			£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
Deputy Master*	75			3	15	–	2	18	4	26	14	8	3	12	–	2	2	1	114	2	1
King's Assayer	–			3	15	–	2	18	4	26	14	8	3	12	–	2	2	1	39	2	1
Comptroller*	100			1	10	–	1	3	4	26	14	8	3	12	–	2	2	1	135	2	1
King's Clerk*	25			1	10	–	1	3	4	26	14	8	3	12	–	2	2	1	60	2	1
Weigher and Teller*	50			1	10	–	1	3	4	23	7	10	3	3	–	1	13	11	80	18	1
Chief Engraver*	100			1	4	–	–	18	–	23	7	10	3	3	–	1	10	2	130	3	–
Assistant Engraver	–			–	18	–	–	14	–	–		–	–		–	–			1	12	–
Clerk of the Irons	–			–	18	–	–	14	–	16	14	2	2	5	–	1	6	5	21	17	7
Master's Assayer	–			–	15	–	–	11	8	16	14	2	2	5	–	1	6	5	21	12	3
Master's 2d Clerk	–			–	12	–	–	9	4	15	–	9	2	–	6	–	18	10	19	1	5
Surveyor of Meltings	–			–	12	–	–	9	4	15	17	5⅓	2	2	9	1	2	8	20	4	2⅓
Surveyor of Money Presses	–			–	12	–	–	9	4	15	17	5⅓	2	2	9	1	2	8	20	4	2⅓
First Clerk	–			–			–			15	–	9	2	–	6	–	18	10	18	–	1
Second Clerk	–			–			–			15	–	9	2	–	6	–	18	10	18	–	1
First extra Clerk	–			–			–			12	10	7½	1	13	9	–	11	4	14	15	8½
Second ditto	–			–			–			12	10	7½	1	13	9	–	11	4	14	15	8½
Probationer Assayer	–			–			–			15	–	9	2	–	6	1	2	8	18	3	11
Clerk to Deputy Master	–			–			–			15	–	9	2	–	6	–	18	10	18	–	1
Bullion Porter	–			–	9	7	–	9	6	6	13	8	–	18	–	–	5	5	8	16	2
																		£.	774	12	10

*These fees in 1826 were upon a copper coinage executed for the East India Company, and were paid with reference to the officers who formerly had fees upon copper coinage.

Mint Office, 26 April 1837.

Jas. W. Morrison, Deputy Master.

— Appendix, No. 28. —

Appendix, No. 28. Return of Pieces deposited in and released from the Pyx, &c.

RETURN of the Pieces deposited in and released from the Pyx at the last Trial, and how accounted for by the Mint.

Value of the Pieces put into the Pyx on the Delivery of Monies at the Mint, from 31 December 1832 to the 31 December 1835; viz.

		£.	s.	d.	£.	s.	d.
In Lord Auckland's mastership	Gold	1,749	–	–			
	Silver	81	11	–			
Mr. Abercromby's mastership	Gold	48	–	–			
	Silver	56	6	6			
Lord Ashburton's mastership	Gold	490	–	–			
	Silver	11	11	–			
Mr. Labouchere's mastership	Gold	819	–	–			
	Silver	34	–	–			
					3,289	8	6
Returned by the Goldsmiths' Jury; viz.							
In gold coin		2,858	–	–			
Ditto (small-sized half sovereigns)		36	–	–			
Silver coin		164	8	8			
Gold ingots, value at 3*l.* 17*s.* 10½*d.* per oz.		192	11	11			
Silver ingots, value at 5*s.* 6*d.* per oz.		16	8	6			
		3,267	9	1			
Pieces cut from the ingots for the assay, reserved by the jury		21	15	7			
Loss in melting		–	3	10			
					3,289	8	6
Accounted for by the Mint; viz.							
1836:							
March 29. Charged to the debit of the Master in his audit cash account for gold monies released from the pyx		2,858	–	–			
Ditto for silver monies released from the pyx		164	8	8			
July 6. Gold pyx ingots weighed in and coined		192	11	11			
Small-sized half sovereigns melted and coined		36	–	–			
Silver pyx ingots weighed in and coined		16	8	6			
		3,267	9	1			
Reserved by the pyx jury as above		21	15	7			
Loss in melting the above ingots from coin		–	3	10			
					3,289	8	6

Jas. W. Morrison, Deputy Master.

Mint Office, 1 May 1837.

(A.)
ROYAL MINT.

Appendix, No. 29.
Return of Charge of Copper Coinage per Ton, and how Charge is distributed.

— Appendix, No. 29. —

RETURN of the CHARGE of COPPER COINAGE per Ton, and how the Charge is distributed.

For Public and Private Coinages in the Year ending 31 March 1837.

PUBLIC COINAGE.

	Pence.	Halfpence.	Farthings.	One-tenth of a Penny (Ionian).
	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Full price per ton - -	42 – –	46 13 4	52 13 4	65 – –

HOW THE CHARGE IS DISTRIBUTED.

	Pence.	Halfpence.	Farthings.	One-tenth of a Penny (Ionian).
	£. s. d.	£. s. d.	£. s. d.	£. s. d.
To the Moneyers - -	31 – –	35 13 4	41 13 4	57 6 8
To the Melter - - -	5 6 8	5 6 8	5 6 8	5 6 8
Surplus for Dies and Contingent Expenses -	5 13 4	5 13 4	5 13 4	2 6 8
£.	42 – –	46 13 4	52 13 4	65 – –

No private Coinages carried on within the above period.

Jas. W. Morrison,
Deputy Master.

Mint Office, 1 May 1837.

— Appendix, No. 30. —

AN ACCOUNT of all SWEEP Sold, from the MELTING HOUSE and REFINERY, from 1828 to 1836.

MELTING HOUSE.	£. s. d.	REFINERY.	£. s. d.
1828 - - - -	—	1828 - - - -	—
1829 - - - -	335 12 4	1829 - - - -	60 1 –
1830 - - - -	694 13 3	1830 - - - -	559 7 8
1831 - - - -	150 7 2	1831 - - - -	474 13 8
1832 - - - -	532 – 6	1832 - - - -	441 17 1
1833 - - - -	169 4 –	1833 - - - -	825 5 7
1834 - - - -	217 6 10	1834 - - - -	223 5 11
1835 - - -	92 12 2	1835 - - - -	55 16 –
1836 - - - -	214 16 6	1836 - - - -	64 10 1
£.	2,406 12 9	£.	2,704 17 –

Royal Mint, May 1837.

—(B.)—

PAPERS RELATING TO THE FRENCH MINT.

— Appendix, No. 31. —

(B.)
French Mint.

Appendix, No. 31.

LETTER from *J. Backhouse*, Esq., to the Right Hon. *H. Labouchere.*

Sir, Foreign Office, 11 May 1836.

In reply to your letter of the 7th ultimo, requesting to be furnished with certain information upon the subject of the French Mint, I am directed by Viscount Palmerston to transmit to you the copy of a note, with its several enclosures, which has been addressed by M. Thiers to His Majesty's Ambassador at Paris, in answer to the application which Lord Granville was instructed to make, in order to obtain the required information.

I have, &c.
J. Backhouse.

Copy LETTER from M. *Thiers* to Earl *Granville.*

Communication from M. Thiers to Earl Granville.

M. l'Ambassadeur,

J'ai l'honneur de transmettre à V. E., conformément au vieu qu'elle m'en avait exprimé:

1°. Les réponses aux questions qu'elles m'avaient faites sur les monnaies de France, pour servir de documens à consulter dans une enquête ouverte à Londres sur la fabrication de la monnaie de la Grande Brétagne:

2°. Les divers documens à l'appui de ces réponses.

(signé) *A. Thiers.*

Paris, le 2 Mai 1836.

REPONSES aux Questions sur les Monnaies Françaises, faites par M. l'Ambassadeur d'Angleterre, et transmises par M. le Ministre Secretaire d'Etat des Affaires Etrangères, (le 22 Avril 1836.)

QUESTIONS.	Pièces et Documens Fournis.	Réponses aux Questions.	Observations.
1°. Quel est le système sur lequel la monnaie de France est établie?	(A.) Loi sur la fabrication et la vérification des monnaies, du 7 germinal, an xi.	Le système actuel des monnaies Françaises a été fixé par la loi du 7 germinal, an xi (28 Mars 1803).	
	(B.) Arrêté du 28 germinal, an xi (18 Avril 1803), déterminant le diamètre de chaque pièce de monnaie.	Ou fera seulement observer: 1°. Que pour les monnaies d'argent. (art. 3 de la loi) on n'a pas fabriqué de pièces de trois quarts de francs, parcequ'il y a dans la circulation des pièces de 15 et 30 sols, qui sont d'accord avec le système décimal par leur valeur nominale, mais non par leur poids, diamètre et titre; 2°. Art. xi de la loi. Que la retenue sur les matières d'or et d'argent, accordée aux directeurs pour frais de fabrication et déchets, a été réduite, à compter du 1er Julliet 1835, à 6 francs par kilogramme d'or (au lieu de 9 francs), et à 2 francs par kilogramme d'argent (au lieu de 3 francs). 3°. Pour les monnaies de cuivre (art. xiii de la loi), qu'il n'a pas été fabriqué de pièces de deux centimes et de trois centimes; et qu'on n'a mis en émission qu'une petite quantité de centimes. 4°. Art. xxi de la loi. Que les pièces, ayant servi à constater le titre des fabrications, au lieu de rester déposer pendant cinq ans, leur sont rendues dans le trimestre suivant, pour les pièces restées entières; et, au commencement de l'année suivante, pour les pièces sur lesquelles ont été prélevées les prises d'essai;	Voir la réponse à la 2 question, § 3.
	(C.) Extrait de la loi du 15 Septembre 1807 (fabrication de pièces de billon de 10 centimes).	Une loi du 15 Septembre 1807, ordonna la fabrication de pièces de 10 centimes, au titre de 200 mill. de fin, et du poids de 2 grammes. Il n'en a été fabriqué qu'au type de Napoléon. On ne fabrique plus de billon à cause des inconvéniens que présente cette monnaie, dont le frai est très prompt et la contrefaçon très-facile.	

QUESTIONS.	Pièces et Documens Fournis.	Réponses aux Questions.	Observations.
2°. Quels sont les termes et la nature du contrat passé avec ceux qui fabriquent la monnaie?	(D.) Ordonnance du roi sur l'organisation de la commission des monnaies du 26 X^bre 1827.	Il n'a pas été passé de contrat particulier avec les directeurs de la fabrication des monnaies. Les obligations que les directeurs ont à remplir, résultent des divers réglemens et instructions de l'administration.	Particulièrement l'ordonnance et l'instruction générale à jointes.
	(E.) Instruction générale de la commission des monnaies (sur l'exécution de cette ordonnance) du 15 Fevrier 1828, approuvée le 5 Mars 1828.	Les directeurs sont tenus moyennant la remise fixe de 6*f.* par kilogramme d'or fabrique, et de 2*f.* par kilogramme d'argent, de pourvoir à tous les frais de fabrication; tels que, transport, demeure de fonds, risques de route et de soustraction, employés, ouvriers, main d'œuvre, alliage, fourniture de coins et viroles, machines, fourneaux, combustible et diverses substances, entretien et réparations de leurs ateliers.	
3°. Quelles sont l'étendue et les dépenses de l'établissement public?	- - - - -	Il n'existe pas, comme en Angleterre, qu'un seul établissement monétaire pour tout le royaume: Il y a 13 hôtels monétaires en France: Paris, Bayonne, Bordeaux, La Rochelle, Lille, Limoges, Lyon, Marseille, Nantes, Perpignan, Rouen, Strasbourg, Toulouse. On a proposé d'en réduire le nombre à six. Chaque monnaie a son hôtel, où sont logés les agens du gouvernement et le directeur de la fabrication et ses ateliers, dont le directeur est usufruitier. L'hotel des monnaies à Paris dans lequel sont logés tous les fonctionnaires généraux, et le graveur général, et se trouvent placés: Le Laboratoire des Essais; Les Bureaux de l'Administration Centrale; Les Archives et la Bibliothèque; Un Musée Numismatique pour les Monnaies et Médailles; Les Ateliers pour la Fabrication des Coins, Viroles et Poinçons; Les Bureaux et les Ateliers de la Garantie pour les Ouvrages d'Or et d'Argent. L'administration et la surveillance des monnaies et médailles et de la garantie des ouvrages d'or et d'argent (en ce qui concerne les essais et la confection des poinçons), s'exercent par une commission, suivant les régles établies par l'ordonnance du 26 Decembre 1827, et l'instruction générale, relative à l'exécution de cette ordonnance.	La monnaie de Paris est seule chargée de la fabrication des médailles. Ces agens sont un commissaire du roi; un contrôleur au change; un contrôleur monnayage. Leurs attributions sont fixés par l'ordonnance du 26 Decembre 1827, et l'instruction générale pour l'exécution de cette ordonnance. Voir la 2^e question.
	(F.) Extrait des propositions de lois concernant la fixation des budgets de dépenses et recettes de l'exercice 1836.	Les dépenses générales, fixées par les dernier budgets, sont (pour le personnel): Administration centrale - - - - *f.* 77,700 13 Etablissemens monétaires - - - *f.* 155,600 Musée monétaire et des mèdailles - - 12,000 Garantie - - - - - - - 27,000 Pour le matériel - - 194,600 Administration centrale, médailles, garantie, et 13 hôtels des monnaies - - 88,000 } 282,600 Total général - - - - - - *f.* 360,300	
4°. Dequelle manière s'assure-t-on du tritre et de la pureté des monnaies?	- - - - -	L'Ordonnance du 26 Décembre 1827, et l'instruction générale de la commission des monnaies, déjà citées, ont déterminé: la manière dont sont prélevés les échantillons, sur chaque fabrication d'espèces; et comme il est procédé au jugement de leur titre, par la commission des monnaies. Les inspecteurs des finances, chargés de vérifier les diverses monnaies, prélévent, sur les espèces, déposées dans une caisse à trois clefs, en attendant le jugement de la commission, ou sur celles qui se trouvent en circulation, un certain nombre de pièces qui sont envoyées à la commission pour en constater le titre. Cette vérification sert de contrôle aux premiers essais. Indépendamment des essais répétés, chaque jour sur les échantillons de chaque fabrication, et de tems en tems sur ceux que transmettent les inspecteurs des finances; tous les ans pour s'assurer que les espèces fabriquées se trouvent dans les limites prescrites par la loi, pour le poids et le titre, on procède à l'opération désigné sous le nom de vérification des deniers courans, laquelle consiste à prélever, dans la circulation de chaque arrondissement monétaire, six pièces de chaque espèce, des fabrications de l'année expirée, et de l'atelier monétaire de l'arrondissement. La commission des monnaies fait constater le poids et le titre de ces diverses pièces. On a constamment reconnu par le résultat de cette vérification que les poids et les titres des diverses pièces d'or ou d'argent, se trouvaient dans les tolérances accordeés par la loi.	Voir la 2^e question.

QUESTIONS.	Pièces et Documens Fournis.	Réponses aux Questions.	Observations.
5°. Comment se traite l'essai et l'affinage des monnaies?	- - - - -	L'essai des échantillons, prélevés sur chaque fabrication, se fait de la manière indiquée par l'instruction générale du 15 Février 1828. Pour l'or, l'essai s'opère, comme anciennement, sur demi-gramme d'or, au moyen de l'inquartion et du départ par l'acide nitrique. Le poids du cornet d'or fin obtenu, comparé à celui du demi-gramme, prélève sur la pièce de monnaie, donne le titre de chaque pièce.	Voir la question, N° 2.
	(G.) Documens officiels relatifs à la rectification en France, du mode d'essai des matières d'or et d'argent généralement suivi en Europe.	Pour l'argent, on a substitué à l'ancien essai par la coupelle, l'essai par la voie humide, qui donne des résultats d'une exactitude presque mathématique. Les documens ci-joints fournissent tous les renseignemens désirables sur ce nouveau mode d'essai.	
	(H.) Instruction sur l'essai des matières d'argent par la voie humide, par M. Gay-Lussac.		
	(I.) Ordonnances royales du 6 Juin 1830, tarif, instructions et rapport sur le nouveau mode d'essai des espèces et des matières d'argent.	Les frais d'affinage, pour les matières d'or et d'argent au dessous du titre monétaire, ou contenant des alliages qui les rendraient impropres à la fabrication, ont été considérablement reduits par l'ordonnance du 15 Octobre 1828. Ces frais ne doivent se percevoir que sur la quantité de matières qui a besoin d'être affinée pour élever la totalité des matières, présentées au change, au titre monétaire. La table, jointe à l'ordonnance, sert à calculer la portion des matières à affiner sur un kilogramme, en raison du titre de ces matières.	
	(J.) Ordonnance du roi du 15 Octobre 1828, sur les frais d'affinage des matières d'or et d'argent, suivie d'une table des frais d'affinage à percevoir, au change des monnaies.		
	(K.) Tarifs des matières d'or et d'argent, publiés en vertu de l'ordonnance royale du 30 Juin 1835; précédés de cette ordonnance.		
6°. Combien coûte au public le monnayage de l'or et de l'argent?	(L.) Frais de fabrication des monnaies d'or et d'argent. Rapport au roi par le ministre secrétaire d'état des finances du 25 Février 1835. Ordonnance du roi du 25 Février 1835. Décision du ministre des finances du 26 Février 1835.	Le public n'a d'autres frais à supporter pour la fabrication des espèces, que la retenue qui s'opère au change des monnaies, au moyen des tarifs et qui est, on le répète de 6 *f.* par kilogramme d'or, et de 2 *f.* par kilogramme d'argent; en d'autres termes, le kilogramme d'or monnayé à 900/1,000^er^ de fin.	

	fr.	Difference ou Retenue.
Vaut - - - *f.*	3,000	6 *f.*
Il se paye, au change	3,094	
Le kilogramme d'argent vaut - - -	200	2.
Il se paye - - -	198	

La décision du ministre, du 26 Février 1835, établis des mesures de garantie en faveur des particuliers qui, versant leurs matières d'or et d'argent au change, n'en reçoivent la valeur qu'après leur conversion en espèces et le jugement de leur titre.

(A.)

Loi sur la Fabrication et la Vérification des Monnaies. Du 7 Germinal, an xi de la République.

Au nom du peuple Français, Bonaparte, premier Consul, proclame loi de la République le décret suivant, rendu par le Corps Législatif le 7 Germinal an xi, conformément à la proposition faite par le Gouvernement le 19 Ventôse, communiquée au Tribunat le lendemain.

Décret. Disposition générale.

Cinq grammes d'argent, au titre de neuf dixièmes de fin, constituent l'unité monétaire, qui conserve le nom de franc.

Titre I. *De la Fabrication des Monnaies.*

Art. 1^er^. Les pièces de monnaie d'argent seront d'un quart de franc, d'un demi-franc, de trois quarts de franc, d'un franc, de deux francs, et de cinq francs.

2. Leur titre est fixé à neuf dixièmes de fin et un dixième d'alliage.

3. Le poids de la pièce d'un quart de franc sera d'un gramme vingt-cinq centigrammes ;
Celui de la pièce d'un demi-franc, de deux grammes cinq décigrammes ;
Celui de la pièce de trois quarts de franc, de trois grammes soixante quinze centigrammes ;
Celui de la pièce d'un franc, de cinq grammes ;
Celui de la pièce de deux francs, de dix grammes ;
Et celui de la pièce de cinq francs, de vingt-cinq grammes.

4. La tolérance du titre sera, pour la monnaie d'argent, de trois millièmes en dehors, autant en dedans.

5. La tolérance de poids sera, pour les pièces d'un quart de franc, de dix millièmes en dehors, autant en dedans ; pour les pièces d'un demi-franc et de trois quarts de franc, de sept millièmes en dehors, autant en dedans ; pour les pièces d'un franc et de deux francs, de cinq millièmes en dehors, autant en dedans ; et pour les pièces de cinq francs, de trois millièmes en dehors, autant en dedans.

6. Il sera fabriqué des pièces d'or de vingt francs et de quarante francs.

7. Leur titre est fixé à neuf dixièmes de fin et un dixième d'alliage.

8. Les pièces de vingt francs seront à la taille de cent cinquante-cinq pièces au kilogramme, et les pièces de quarante francs à celle de soixante-dix-sept et demie.

9. La tolérance du titre de la monnaie d'or est fixée à deux millièmes en dehors, autant en dedans.

10. La tolérance de poids est fixée à deux millièmes en dehors, autant en dedans.

11. Il ne pourra être exigé de ceux qui porteront les matières d'or ou d'argent à la monnaie, que les frais de fabrication.

Ces frais sont fixés à neuf francs par kilogramme d'or, et à trois francs par kilogramme d'argent.

12. Lorsque les matières seront au-dessous du titre monétaire, elles supporteront les frais d'affinage ou de départ.

Le montant de ces frais sera calculé sur la portion desdites matières qui doit être purifiée, pour élever la totalité au titre monétaire.

13. Il sera fabriqué des pièces de cuivre pur, de deux centièmes, de trois centièmes, et de cinq centièmes de franc.

14. Le poids des pièces de deux centièmes sera de quatre grammes ;
Celui des pièces de trois centièmes, de six grammes ;
Et celui des pièces de cinq centièmes, de dix grammes.

15. La tolérance de poids sera, pour les pièces de cuivre, d'un cinquantième en dehors.

16. Le type des pièces de monnaie est réglé comme il suit :

Sur une des surfaces des pièces d'or, d'argent et de cuivre, la tête du premier consul, avec la légende : " Bonaparte, premier Consul ;"

Sur le revers, deux branches d'olivier, au milieu desquelles on placera la valeur de la pièce ; et en dehors, la légende, " République Française," avec l'année de la fabrication.

Sur les pièces d'or et de cuivre, la tête regardera la gauche du spectateur ; et sur les pièces d'argent, elle regardera la droite.

La tranche des pièces de cinq francs portera cette légende : " Dieu protége la France."

17. Le diamètre de chaque pièce sera déterminé par un réglement d'administration publique.

Titre II. *De la Vérification des Monnaies.*

18. Les monnaies fabriquées aux termes de la présente, ne seront mises en circulation qu'après vérification de leur titre et de leur poids : cette vérification se fera sous les yeux de l'administration des monnaies, immédiatement après l'arrivée des échantillons.

19. Les directeurs de fabrication pourront assister en personne aux vérifications, ou se faire représenter par un fondé de pouvoir.

20. L'administration dressera procès-verbal des opérations relatives à la vérification du monnayage ; elle enverra ce procès-verbal aux ministres des finances et du trésor public, avec sa décision.

21. Les pièces qui auront servi à constater l'état de la fabrication, resteront déposées aux archives de l'administration des monnaies pendant cinq ans : elles seront ensuite passées en recette au caissier, qui les enverra à la refonte.

22. En cas de fraude dans le choix des échantillons, les auteurs, fauteurs et complices de ce délit, seront punis comme faux monnayeurs.

Collationné à l'original, par nous président et secrétaires du corps législatif.
A Paris, le 7 Germinal, an xi de la République Française.

(signé) *Girod* (de l'Ain), Président.
Latour-Maubourg, *Lefranc*, } Secrétaries.
Hte. Monseignat, *Bazoche*, }

Soit la présente loi revêtue du sceau de l'état, insérée au bulletin des lois, inscrite dans les registres des autorités judiciaires et administratives, et le grand-juge, ministre de la justice, chargé d'en surveiller la publication. A Paris, le 17 Germinal, an xi de la République.

(signé) *Bonaparte*, Premier Consul.
Contre-signé, le Secrétaire d'Etat, *Hugues B. Maret.*
Et scellé du Sceau de l'Etat.
Vu, le Grand-Juge, Ministre de la Justice, (signé) *Regnier.*
Pour copie conforme : Le Ministre des Finances, *Gaudin.*

(B.)
French Mint.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

(B.)

Commission des Monnaies et Medailles.

Arrête du 28 Germinal, an xi, 18 Avril 1803.

Les diamètres des nouvelles pièces d'or, d'argent et de cuivre, sont fixés ainsi qu'il suit :

f. *Or.*

Pièces de	40	-	-	26	millimètres.
	20	-	-	21	—

Argent.

Pièces de	5	-	-	37	millimètres.
	2	-	-	27	—
	1	-	-	23	—
	½	-	-	18	—
	¼	-	-	15	—

Cuivre.

Pièces de	10 centimes	-	-	31	millimètres.
	5	-	-	27	—
	3	-	-	25	—
	2	-	-	22	—

N^a. Le diamètre des pièces de 10^c en billon a été fixé depuis à 19 millimètres.

(C.)

Extrait de la Loi du 15 Septembre 1807.

Titre VII.

Il sera fabriqué des pièces de 10 centimes, en billon au titre de 200 millièmes de fin, et du poids de 2 grammes.

La tolérance de titre et celle de poids sont fixées à 7 millièmes en dedans et 7 millièmes en déhors.

Ces pièces auront pour type une "N." surmontée d'une couronne impériale; deux branches de laurier tiendront lieu de légende.

Sur le revers seront gravés la valeur de la pièce, l'année de la fabrication, les signes indicatifs de l'atelier monétaire, du graveur et du directeur avec la légende, " Napoléon Empereur."

(D.)

Ordonnance du Roi sur l'Organisation de la Commission des Monnaies,

Du 26 Décembre 1827.

Charles, par la grâce de Dieu, Roi de France et de Navarre,

A tois ceux qui ces présentes verront, salut.

Vu la loi du 28 Mars 1803 (7 Germinal, an xi), relative à la fabrication des monnaies, à la vérification du poids et du titre des espèces fabriquées, et au jugement qui doit précéder leur émission;

Vu l'arrêté du 30 Mai 1803 (10 Prairial, an xi), portant réglement sur l'administration des monnaies;

Vu la loi du 9 Novembre 1797 (19 Brumaire, an vi), et l'ordonnance royale du 5 Mai 1820, relatives à la garantie sur la marque d'or et d'argent;

Considérant que les dispositions de l'ordonnance royale du 14 Septembre 1822, qui servent maintenant de règle à la comptabilité générale des recettes et dépenses de l'état, ont modifié ou rendu sans objet le plus grand nombre des formalités prescrites par le réglement du 30 Mai 1803 (10 Prairial, an xi); que, par l'effet de notre ordonnance du 4 Novembre 1824, l'administration des monnaies se trouve déchargée de tout le travail relatif à la comptabilité; que la surveillance et la perception du droit de garantie sur la marque d'or et d'argent sont déjà en majeure partie attribuées à l'administration des contributions indirectes, et peuvent lui être exclusivement confiées, en ce qui ne concerne pas l'exécution des lois et réglemens sur le titre des matières et espèces d'or et d'argent;

Considérant encore que les matières et espèces déposées aux hôtels des monnaies ne demeurent pas entre les mains des caissiers, mais dans celles des directeurs de la fabrication, et que c'est, en conséquence, sur ces derniers que doivent être reportées la responsabilité et l'obligation de fournir un cautionnement; qu'il convient dès lors que les versemens d'espèces soient

soient faits directement en leurs mains, mais qu'il importe en même temps de ne pas diminuer les moyens de surveillance maintenant établis pour la garantie d'une bonne fabrication ;

Voulant enfin apporter dans le personnel de l'administration des monnaies toutes les économies compatibles avec le bien du service, à l'effet d'augmenter les fonds affectés à la refonte des monnaies et d'accélérer cette opération sans imposer de nouvelles charges au trésor royal ;

Sur le rapport de notre ministre secrétaire d'état des finances,

Nous avons ordonné et ordonnons ce qui suit :

Titre Premier.

Du Personnel.

Art. 1. L'administration des monnaies sera remplacée par une commission des monnaies, composée d'un président et de deux commissaires généraux.

Art. 2. Il y aura près de la commission des monnaies : 1°. un bureau composé d'un directeur des essais, d'un vérificateur, et de deux essayeurs ; 2°. un graveur général.

Art. 3. Il y aura dans chaque hôtel des monnaies un commissaire du roi, un directeur de la fabrication, un contrôleur au change, et un contrôleur au monnayage.

Art. 4. Le président et les membres de la commission des monnaies, le directeur des essais, le graveur général, nos commissaires près les hôtels des monnaies, et les directeurs de la fabrication, seront nommés par nous, sur la présentation de notre ministre secrétaire d'état des finances.

Art. 5. Il sera nommé par notre ministre secrétaire d'état des finances, sur la présentation du président de la commission des monnaies, aux places de vérificateur des essais, d'essayeur et de contrôleur au change et au monnayage.

Art 6. Le graveur général et le directeur des essais, le vérificateur et les essayeurs, seront choisis parmi les trois candidats, pour chaque place, désignés par suite d'un concours dont notre ministre secrétaire d'état des finances aura composé le jury, sur la proposition de la commission des monnaies.

Cette disposition n'aura son effet qu'en cas de vacance des places qui en sont l'objet.

Art. 7. Le président de la commission, les commissaires généraux, le graveur général et les membres composant le bureau des essais, le commissaire du roi, le directeur de la fabrication, les contrôleurs au change et au monnayage, ont seuls droit à un logement dans l'hôtel des monnaies à Paris.

Dans les autres hôtels du royaume, les commissaires du roi, les directeurs de la fabrication, les contrôleurs au change et au monnayage, auront également droit à des logemens, lesquels seront désignés par le président de la commission, à raison de la disposition des lieux, de la nature des fonctions et des convenances du service, le tout sauf l'approbation de notre ministre secrétaire d'état des finances.

Titre II.

Des Fonctions.

Art. 8. Les attributions de la commission des monnaies sont : 1°. de juger, conformément au titre 2, de la loi du 7 Germinal, an 11, le titre et le poids des espèces fabriquées en exécution de ladite loi ; 2°. de délivrer, conformément aux lois des 22 Vendémiaire, an 4, et 19 Brumaire, an 6, aux essayeurs du commerce, et aux essayeurs des bureaux de garantie, les certificats de capacité dont ils doivent être pourvus avant d'entrer en fonctions ; 3°. enfin de statuer sur les difficultés relatives au titre et à la marque des lingots et des ouvrages d'or et d'argent, qui sont maintenant déférées à l'administration des monnaies par les lois ci-dessus relatées, et notamment par les articles 58 et 61 de la loi du 19 Brumaire, an 6.

Art. 9. Les argues royales, ainsi que toutes les autres parties du service de la garantie des ouvrages d'or et d'argent dont l'administration des monnaies est maintenant chargée, et qui ne concernent pas l'exécution des lois et réglemens sur le titre et la marque des matières et espéces d'or et d'argent, sont exclusivement attribuées à l'administration des contributions indirectes.

Art. 10. Le président de la commission des monnaies est spécialement chargé, sous l'approbation de notre ministre des finances, de prendre toutes les mesures nécessaires pour l'exécution des dispositions prescrites par l'article 1er du présent titre. Il convoque la commission quand les besoins du service l'exigent ; il fait rédiger, séance tenante, les jugemens et décisions de la commission ; il les signe et il les notifie.

Toutes les lettres et paquets relatifs au service des monnaies doivent lui être adressés et être ouverts par lui.

Il dirige et signe seul la correspondance relative aux attributions de la commission. Il rend compte au ministre secrétaire d'état des finances des résultats de cette correspondance, et il lui propose les mesures qu'il croit convenables à l'intérêt du service.

Il est chargé de la haute police de l'hôtel et de l'exécution de toutes les instructions qu'il reçoit de notre ministre secrétaire d'état des finances : il lui soumet chaque annee, avec ses observations et son avis, le budget général délibéré par la commission pour la fixation des dépenses de toute nature relatives à son service.

Art. 11. Les commissaires généraux sont chargés, 1°. de remplir les fonctions de secrétaire de la commission et de la délivrance des ampliations de ses délibérations ; 2°. de la garde des dépôts, archives, registres et papiers appartenant à la commission, ainsi que des échantillons qui auront servi aux jugemens des fabrications. Ces échantillons continueront, ainsi

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

que les résidus des essais, d'être renfermés dans une armoire à trois clefs, dont l'une sera entre les mains d'un des commissaires, la seconde entre celles du président de la commission, et la troisième entre les mains du directeur des essais ; 2°. de surveiller, sous la direction du président, l'exécution des dispositions prescrites par la présente ordonnance pour l'envoi à Paris, et la réception des échantillons qui doivent servir aux jugemens des espèces, ainsi que toutes les opérations du bureau des essais relatives à la vérification du titre desdits échantillons, aux contestations qui s'éleveraient sur le titre des lingots et bijoux, et à la délivrance des certificats tant aux essayeurs des bureaux de garantie qu'aux essayeurs du commerce.

Les commissaires généraux seront aussi chargés, sous la direction du président, de la surveillance de tout ce qui est relatif à la fabrication des poinçons de la garantie, à la gravure, à la multiplication des coins et des carrés fournis par le graveur général, à leur réception, à leur envoi aux hôtels des monnaies, à leur déformation, et à la conversation des poinçons et matrices. Lesdits poinçons et matrices, ainsi que les carrés destinés à la fabrication, seront renfermés dans une armoire à trois clefs, dont l'une sera entre les mains d'un des commissaires généraux, la deuxième entre celles du graveur général, et la troisième entre les mains de la personne chargée par le président de tenir les registres du mouvement desdits carrés, poinçons et matrices.

Notre ministre secrétaire d'état des finances répartira ces différentes fonctions entre les deux commissaires généraux, ainsi qu'il jugera convenable à l'intérêt du service.

Art. 12. Le graveur général sera chargé de fabriquer et de fournir tous les carrés, coins et coussinets nécessaires à la fabrication, ainsi que les poinçons de la garantie.

Art. 13. Le directeur des essais surveillera les opérations des essayeurs pour la vérification du titre des matières et des espèces : il en dressera procès-verbal, qui sera signé des essayeurs et du vérificateur, et il le remettra, avec son avis motivé, au président de la commission.

Art. 14. Le vérificateur des essais vérifiera le titre des matières et espèces qui aura été indiqué par les essayeurs, et celui de l'or et de l'argent provenant des affinages. Cette vérification se fera en présence du directeur des essais.

Il choisira un poinçon qu'il fera insculper sur une planche en cuivre, qui sera déposée entre les mains du président de la commission.

Art. 15. Les essayeurs indiqueront le titre des espèces fabriquées et des lingots et matières qui leur seront présentés en exécution des arrêts de la commission des monnaies. Il leur est expressément défendu de faire aucune opération sans son autorisation.

Ils choisiront un poinçon qu'ils feront insculper sur une planche de cuivre, qui sera déposée entre les mains du président de la commission.

Ils tiendront registre de toutes leurs opérations, dont le président de la commission des monnaies pourra prendre connaissance, quand il le jugera convenable ; et ils en déposeront un double, tous les ans, entre les mains du président.

Ils ne pourront employer que les agens d'essais qui leur auront été remis d'après les ordres du président de la commission. Ces agens seront tirés du dépôt qu'il aura établi à cet effet. Tous les directeurs des monnaies seront tenus de s'approvisionner au même dépôt.

La qualité de ces agens sera vérifiée en présence des membres de la commission, par trois chimistes qu'elle aura choisis.

Art. 16. Les commissaires du roi exercent la police dans les hôtels des monnaies.

Ils veillent à ce que les réglemens qui concernent la fabrication des espèces soient exactement observés par toutes les personnes chargées de quelques fonctions relatives à cette manipulation.

Ils veillent également à l'exécution des tarifs qui règlent le prix des matières versées au change.

Ils vérifient et arrêtent à la fin de chaque mois, et plus souvent s'ils le jugent convenable, les registres du directeur et du contrôleur au change.

Notre ministre secrétaire d'état des finances déterminera, sur la proposition du président de la commission, les attributions qu'il conviendrait encore de confier aux commissaires, dans l'intérêt du service.

Art. 17. Le directeur recevra, en présence du contrôleur au change, les matières destinées à la fabrication des espèces ; il en est seul responsable envers les porteurs : il est tenu de payer les matières qu'ils auront versées, au prix du tarif légal, lequel devra être affiché au bureau du change.

Il comptera de ses opérations, chaque année, à la cour des comptes. Le mode de sa comptabilité, ainsi que celui de ses écritures, sera prescrit par notre ministre secrétaire d'état des finances. Il sera tenu de verser un cautionnement, en rentes, égal à celui qu'avait fourni le caissier du même hôtel.

Art. 18. Le contrôleur au change enregistrera toutes les matières, destinées à être converties en espèces, qui seront remises au directeur ; ses écritures seront tenues de manière qu'elles puissent servir de contrôle à celles du directeur de la fabrication.

Les contrôleurs au change sont placés sous l'autorité immédiate des commissaires du roi, et ils peuvent être chargés par eux de l'exercice de la surveillance qui leur appartient.

Art. 19. Le contrôleur au monnayage surveillera spécialement les opérations du monnayage. Il est placé sous la direction immédiate du commissaire du roi.

TITRE III.

De la Fabrication, du Jugement du Poids et du Titre, et de la Délivrance des Espèces fabriquées.

Art. 20. Le commissaire du roi est chargé, dans chaque hôtel des monnaies, d'inspecter et de surveiller toutes les opérations relatives à la fabrication.

Art. 21.

Art. 21. La fabrication terminée, le commissaire et le contrôleur au monnayage prendront chacun trois pièces sur toutes les autres, au hasard et sans choix: ces six pièces seront mises dans un paquet, sans être pesées, sous les cachets du commissaire, du directeur et du contrôleur au monnayage. Ce paquet sera adressé sans délai par le commissaire au président de la commission à Paris.

Art. 22. La masse restante des espèces sera pesée en présence du commissaire, du contrôleur au monnayage et du directeur.

Il sera dressé procès-verbal de ces opérations en triple expédition, signé par ces fonctionnaires, et contenant le nombre, la valeur et le poids desdites espèces, qui seront remises dans le local destiné à servir dépôt, jusqu'après la réception du jugement de la commission. Ce dépôt fermera à trois clefs, qui resteront entre les mains du commissaire, du directeur et du contrôleur au monnayage.

Une expédition du procès-verbal sera envoyée au président de la commission; les deux autres resteront entre les mains du commissaire et du directeur.

Art. 23. Aussitôt après la réception du jugement, le commissaire vérifiera, sous sa responsabilité, le poids et l'empreinte de chaque pièce; il séparera celles qui seront défectueuses ou faibles de poids, pour être refondues en sa présence et celle du contrôleur au monnayage; le surplus sera remis au directeur. Les pièces faibles de poids, ou dont les empreintes seraient défectueuses, seront refondues aux frais du directeur, ainsi que les espèces jugées hors de titre ou de poids par la commission des monnaies.

Art. 24. La commission des monnaies, assemblée par le président de la commission, procédera au jugement des espèces aussitôt que les échantillons seront parvenus.

Les cachets reconnus sains, la commission ouvrira le paquet et vérifiera le poids des pièces envoyées pour échantillons, et en dressera procès-verbal.

Si le poids des pièces est au-dessous du remède, elle ordonnera la refonte sans vérification du titre.

Si le poids est dans les remèdes, il en sera remis trois au directeur des essais, qui les fera laminer pour les difformer, et y apposera un poinçon de marque après les avoir pesées séparément.

Il en remettra une à chacun des deux essayeurs, et gardera la troisième pour la remettre au vérificateur des essais, s'il y a lieu.

Les essayeurs opéreront, chacun séparément dans le laboratoire des essais de la commission; ils donneront leurs résultats dans le jour et par écrit.

Le poids d'essai sera d'un gramme pour l'argent et d'un demi-gramme pour l'or.

Si les rapports des deux essayeurs sont d'accord, le titre sera jugé d'après ces rapports.

Si les rapports des deux essayeurs ne sont pas d'accord, le vérificateur procédera, en présence du directeur des essais, à la vérification du titre.

Si le rapport du vérificateur est d'accord avec celui d'un des essayeurs, le titre sera jugé d'après ce rapport.

Si le titre annoncé par le vérificateur est entre ceux déterminés par les essayeurs, il sera fait un nouvel essai par le vérificateur, sous les yeux du directeur des essais, de la manière suivante:

Il sera pris partie égale de chacune sur trois pièces, pour faire un nouvel essai; le résultat déterminera le jugement du titre, s'il n'en est pas autrement ordonné par le directeur des essais.

Les essayeurs et le vérificateur remettront au directeur des essais le restant des échantillons, ainsi que les boutons, cornets et résidus d'essai, pour faire les expériences qu'il jugera convenables.

Si le directeur des essais reconnaisait qu'il y eût lieu à une nouvelle vérification, ou si elle était ordonnée par le président de la commission, qui pourra assister aux essais s'il le juge convenable, il y sera procédé sous ses yeux par le vérificateur des essais: ce dernier résultat déterminera le jugement du titre.

Art. 25. Il sera dressé procès-verbal ces opérations, signé du directeur, du vérificateur des essais et des essayeurs; il en sera remis expédition à la commission, qui prononcera le jugement.

Art. 26. Le président de la commission enverra sans délai expédition du jugement au commissaire, que l'inscrira sur son registre, et en donnera copie certifiée au directeur et au contrôleur au change.

Art. 27. Le restant des échantillons qui auront servi au jugement de la fabrication, les boutons, cornets et résidus d'essais, ainsi que les pièces de la même fabrication qui auront été conservées entières, seront renfermés dans un paquet sous les cachets des commissaires et du directeur des essais; ce paquet sera remis dans l'armoire à trois clefs destinée au dépôt des échantillons. Il en sera dressé procès-verbal, qui fera mention de la fabrication, du jour du jugement du titre rapporté, et du nom de l'hôtel des monnaies: pareille mention sera faite sur le paquet.

Dispositions Générales.

Art. 28. Les dispositions des réglemens, décrets et ordonnances qui seraient contraires a la présente ordonnance, sont et demeurent abrogées.

Art. 29. Notre ministre secrétaire d'état des finances est chargé de l'exécution de la présente ordonnance, qui sera insérée au bulletin des lois.

Donné en notre Château des Tuileries, le 26 Décembre, l'an de grâce 1827, et de notre règne le quatrième.

(signé) Charles.

Par le Roi:

Le Ministre Sécrétaire d'Etat des Finances,

J^n de Villèle.

(B.)
French Mint.
Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

(E.)

Instruction Generale de la Commission des Monnaies pour l'Exécution de l'Ordonnance Royale du 26 Décembre 1827.

L'ordonnance royale du 26 Décembre 1827, qui remplace par une commission l'administration des monnaies, a eu pour but principal de reporter sur le fonctionnaire dépositaire et seul possesseur des matières destinées à être fabriquées, la responsabilité qui pouvait peser sur le gouvernement, tant qu'il existait des comptables à cautionnement, sous le nom de caissiers.

Pour conserver au gouvernement et au public les garanties nécessaires à leur sécurité, l'ordonnance a décidé que les cautionnemens versés par les directeurs de la fabrication remplaceraient ceux précédemment versés par les caissiers, et que ces derniers, sous la dénomination de contrôleurs au change, exerceraient sur l'enregistrement et le mouvement des matières et des espèces une surveillance telle, que, chaque jour et à chaque instant, la situation positive et matérielle des travaux du directeur pût être constatée.

Par suite de ces dispositions, quelques modifications ont dû être apportées aux instructions précédentes, et la commission des monnaies a pensé qu'en les indiquant aux fonctionnaires, elle devait leur retracer les obligations établies par les réglemens antérieurs, en leur recommandant toutefois l'observation des lois monétaires non abrogées.

Du Directeur des Essais.

Fonctions et Attributions.

Le directeur des essais est admis, avec voix délibérative, aux séances de la commission des monnaies, toutes les fois qu'il y est question d'objets concernant les essais.

Il propose à la commission ses vues sur le perfectionnement des opérations relatives aux essais.

Il donne son avis sur les questions chimiques qui lui sont faites par le président de la commission des monnaies.

Il s'assure de la pureté des agens chimiques employés au laboratoire, et de l'exactitude des poids et balances d'essai. Il vérifie également la qualité du plomb et des acides dont les essayeurs de la garantie doivent se pourvoir au dépôt établi près la commission.

Il veille à ce que les fonctionnaires du laboratoire remplissent avec exactitude leurs obligations respectives, et à ce que les essais et autres opérations n'éprouvent aucun retard.

Il est juge des opérations du vérificateur et des essayeurs; il a le droit de les faire recommencer, et d'en ordonner la continuation jusqu'à parfaite exécution.

Il fait tenir deux registres distincts, l'un, pour les essais et la vérification du titre des espèces monnayées et des lingots ou matières d'or et d'argent; l'autre, pour les analyses ou autres opérations chimiques ordonnées par le président de la commission.

Procès-verbal de chacune des opérations des essayeurs et du vérificateur est inscrit, jour par jour, au registre à ce destiné; et ce registre est signé, 1°. par les essayeurs qui ont opéré; 2°. par le vérificateur, lorsqu'il est intervenu; 3°. par le directeur des essais; 4°. par l'un des commissaires généraux. Expédition de ces procès-verbaux est adressée, chaque jour, au président de la commission par le directeur des essais, avec son avis motivé, s'il y a lieu.

Le registre pour l'essai du titre des espèces, des lingots et des matières d'or et d'argent, est déposé, tous les ans, aux archives de la commission. Celui destiné aux analyses ou travaux chimiques reste en dépôt au laboratoire.

Le directeur des essais règle et vise les mémoires des dépenses relatives au laboratoire, et les soumet à l'ordonnancement du président de la commission. Il rend compte, tous les ans, et plus souvent, s'il est nécessaire, de la portion de boutons d'essai d'or et d'argent qu'il aura jugé convenable de conserver pour les expériences du laboratoire.

Il procède, en présence du vérificateur, à l'examen des candidats pour les places d'essayeurs de la garantie et du commerce. Le résultat de cet examen est transmis à la commission, qui délivre, s'il y a lieu, un certificat de capacité.

En cas d'absence pour maladie ou par congé, le directeur des essais est remplacé de droit par le vérificateur, et, à défaut de celui-ci, par l'un des essayeurs.

Détermination du Titre des Espèces.

Les essayeurs et le vérificateur ne devant pas connaître à quelle monnaie appartiennent les échantillons sur lesquels ils sont chargés d'opérer, la commission des monnaies, avant de remettre au directeur des essais les trois pièces à essayer, fera disparaître, en présence de ce fonctionnaire (s'il juge convenable d'assister à l'opération), la partie des trois pièces portant les différens monétaires, en employant des numéros de reconnaissance, à l'aide desquels on pourra toujours connaître à quelle monnaie appartiennent les échantillons.

Si les pièces difformées ne suffisaient pas pour l'essai, les échantillons réservés, après avoir subi la même opération, seraient aussi remis au directeur des essais sur sa demande. Une note indicative de cette remise remplacera dans l'armoire des échantillons le paquet de ces trois pièces.

Les pièces provenant des différentes monnaies, envoyées au laboratoire, seront placées sans distinction sur la table, afin que le hasard décide seul de l'ordre dans lequel seront faits les essais. (Le poids d'essai est d'un gramme pour l'argent, et d'un demi-gramme pour l'or.)

Chaque essayeur prend une des trois pièces : la troisième est gardée, pour, en cas de besoin, être essayée par le vérificateur.

Si les deux essayeurs sont d'accord, et si les titres sont dans les remèdes voulus par la loi, la commission des monnaies autorise la délivrance de la fabrication.

Si les deux essayeurs, également d'accord, trouvent leurs deux pièces hors des remèdes, le vérificateur est appelé à vérifier les deux pièces.

Si ce fonctionnaire en trouve une hors des limites, la refonte de la brève est prononcée.

Mais s'il trouvait les deux pièces dans les limites, il serait procédé à une reprise d'essai sur les deux pièces par le directeur.

Si l'une des deux pièces est trouvée par le directeur hors des remèdes, la refonte est ordonnée; si les deux pièces sont au contraire trouvées par lui dans les remèdes, le jugement du titre est, dans ce cas, établi sur le terme moyen des quatre essais du vérificateur et du directeur.

Si les titres rapportés par les deux essayeurs ne sont pas d'accord, quoique trouvés dans les limites, le vérificateur intervient et opère sur la troisième pièce.

Si le titre accusé par lui est d'accord avec le titre de l'un des essayeurs, le jugement sera conforme à ce titre; si le titre est entre ceux des deux essayeurs, ou encore s'il est en dehors de ces titres, mais toujours dans les remèdes légaux, le jugement est établi sur le terme moyen des trois titres.

Mais dans le cas où l'essai du vérificateur se trouverait hors des limites, alors le directeur des essais ordonne un essai consultatif sur la troisième pièce. Si ce dernier essai se trouve hors des limites, il y a lieu à la refonte; si au contraire il est dans les limites, il y a lieu à une reprise par le directeur sur la même pièce; si le directeur la trouve également hors des limites, la refonte est prononcée par la commission.

Si le directeur trouve cette même pièce dans les limites, le jugement aura lieu sur le terme moyen des trois essais faits, 1°. par les essayeurs sur les deux premières pièces, 2°. par le directeur sur la troisième.

S'il résulte du rapport des deux essayeurs que l'une des pièces est dans le remède et l'autre hors du remède, le vérificateur essaie la pièce trouvée hors des limites; la refonte sera prononcée, s'il l'a juge de même hors des limites. S'il la rapporte dans les limites, le directeur fait une reprise d'essai sur la même pièce. Il y a lieu à refonte si le directeur la déclare hors des limites; mais s'il la trouve dans les remèdes, le titre déclaré par le vérificateur est enregistré à la place du titre trouvé hors des limites par l'un des essayeurs. Le jugement du titre de la délivrance se continue alors comme si les essayeurs avaient primitivement trouvé leurs deux pièces à bon titre.

Si les deux essayeurs ont trouvé les deux premières pièces hors des limites, sans être néanmoins d'accord sur le titre, le vérificateur opère sur l'une et l'autre pièce. S'il en trouve une hors du remède, la refonte sera prononcée; mais s'il les déclarait toutes deux dans les limites, le directeur alors essaierait ces deux mêmes pièces. Si l'une d'elles est jugée par lui hors des limites, la refonte est ordonnée; mais s'il rapporte les deux pièces dans les remèdes, le jugement du titre est établi sur la moyenne des quatre essais du vérificateur et du directeur.

Au surplus, le tableau synoptique ci-joint retrace tous ces cas, et facilite l'application à chacun d'eux des présentes dispositions.

Vérification des Lingots et Matières.

Toute opération étrangère au service monétaire étant interdite aux essayeurs et au vérificateur dans le laboratoire, le directeur des essais veille à ce qu'il ne soit procédé à l'essai d'aucune matière sans l'autorisation spéciale du président de la commission des monnaies.

Dans les cas de vérification de titre des lingots ou matières d'or et d'argent ordonnée par le président, et ensuite du jugement rendu par la commission, le directeur des essais fait apposer sur lesdits lingots et matières un poinçon dont il est dépositaire, et portant ces mots: Commission des Monnaies.

Du Vérificateur des Essais.

Le vérificateur des essais doit concourir, sous la surveillance du directeur des essais, en cas de désaccord entre les deux essayeurs, aux opérations et analyses chimiques demandées par le président de la commission des monnaies.

Il est appelé à vérifier les titres des monnaies et des matières d'or et d'argent, dans les cas et de la manière qui ont été expliqués ci-dessus, à l'article du directeur des essais.

Il remet ses rapports au directeur des essais.

Il signe le registre et les procès-verbaux des opérations auxquelles il a concouru.

Il assiste à l'examen des essayeurs du commerce.

En cas d'absence par congé ou par maladie, ou lorsqu'il supplée le directeur des essais absent, il est remplacé par un des essayeurs.

Des Essayeurs.

Les essayeurs doivent posséder les connaissances et la pratique nécessaires pour exécuter les analyses, travaux chimiques et expériences qui ont rapport à l'art monétaire et qui seraient ordonnés par le président de la commission des monnaies.

Les essayeurs opèrent chacun séparément; ils inscrivent, jour par jour, le résultat de leurs opérations, conformément à l'art. 24 de l'ordonnance du 26 Décembre 1827, sur le carnet tenu au laboratoire sous la surveillance du directeur des essais.

Le directeur fait dresser procès-verbal de leurs opérations sur les registres du laboratoire à ce destinés, et qui seront signés, 1°. par eux; 2°. par le vérificateur, lorsqu'il aura été appelé à vérifier leurs essais; 3°. dans tous les cas, par le directeur des essais et par le commissaire général chargé spécialement de ce détail. (Articles 13 et 15 de l'ordonnance.)

(B.)
FRENCH MINT.
Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

En cas d'absence par congé ou par maladie, ou lorsqu'ils suppléent le vérificateur, les essayeurs sont remplacés, sous leur responsabilité, par l'aide-essayeur attaché au laboratoire, ou par un essayeur du commerce présenté par l'essayeur et agréé par la commission, sur la proposition du directeur des essais.

L'indemnité due à l'essayeur du commerce, et réglée à l'amiable, sera aux frais du fonctionnaire qui aura donné lieu au remplacement.

Du Graveur Général.

Le graveur général est chargé de la confection des poinçons, matrices, coins et coussinets nécessaires à la fabrication des espèces, ainsi que des poinçons et matrices pour la marque d'or et d'argent.

Il doit faire à l'avance tous ses travaux préparatoires, pour être toujours prêt à satisfaire aux demandes de la commission des monnaies.

Il est responsable des abus qui proviendraient de l'inhabileté ou de l'infidélité de ses employés et ouvriers.

Toutes les demandes qui lui seront faites pour objet de son service devront être signées par le président de la commission ou le commissaire général désigné à cet effet.

Il lui sera délivré, par le commissaire général chargé de la réception de ses diverses fournitures, un récépissé qu'il devra produire à l'appui de ses mémoires.

Tous les objets livrés par lui devront être de première qualité, et ne seront reçus qu'après épreuve. Celle des coins destinés à frapper l'or et l'argent sera faite sur des flans d'essai de cuivre, et celle pour les coins destinés à frapper le bronze, sur des flans de bronze, à moins qu'il n'en soit autrement ordonné par la commission.

L'épreuve des poinçons-matrices et autres objets relatifs à la marque d'or et d'argent aura lieu en présence d'un des membres de la commission, qui s'adjoindra, pour l'épreuve des coins, carrés et coussinets nécessaires à la fabrication des espèces, le commissaire du roi et le contrôleur du monnayage près l'hôtel des monnaies de Paris.

Tout ce qui aura été reconnu défectueux restera à la charge du graveur, et sans indemnité.

Il sera chaque fois dressé procès-verbal de ces opérations.

Le graveur général sera tenu de faire les essais et expériences qui lui seront prescrits par la commission, pour le perfectionnement des coins, coussinets, &c. &c.

Il devra prévenir, à l'avance et par écrit, le président de la commission, des livraisons qu'il sera en mesure d'effectuer, d'après les commandes qui lui auront été faites; et il sera ensuite informé du jour où les livraisons devront avoir lieu.

Les mémoires de ces fournitures seront réglés et ordonnancés par le président de la commission.

Chaque fois qu'il en sera requis, le graveur général devra justifier non-seulement des matrices, poinçons et coins, &c. &c. qu'il aura fournis, mais encore de tous ceux qu'il aura fabriqués, qui auront été admis ou rejetés à l'épreuve, et qui auraient manqué à la trempe ou par quelque autre accident: en un mot il devra toujours être en mesure de prouver l'emploi qu'il en aura fait.

Les coins manqués au travail ou à l'épreuve seront soumis à la difformation, de la même manière que les coins hors de service.

Par suite des dispositions qui précèdent, le graveur général est tenu d'avoir un registre coté et paraphé par la commission, lequel mentionnera par ordre de nature tous les objets qu'il aura fabriqués et la destination qu'ils auront reçue.

Ce registre sera vérifié par l'un des commissaires généraux, et arrêté tous les trois mois, et plus souvent s'il est jugé convenable, par le président de la commission ou le commissaire général à ce délégué.

A la fin de chaque trimestre, le graveur général adressera au président de la commission un état de situation des objets qui auront été fabriqués, livrés ou réformés, de ceux restant en dépôt entre ses mains, et enfin de ceux en cours de fabrication.

Il procédera gratuitement, en présence de la commission, toutes les fois qu'il en sera requis, à la vérification des pièces de monnaie arguées de faux, et à celle des marques de la garantie apposées sur les bijoux et matières d'or et d'argent.

Si la commission jugeait convenable d'ordonner l'apposition d'un point secret de reconnaissance sur ceux des coins destinés à la fabrication des espèces qui pourraient recevoir ce signe, le graveur général sera tenu d'exécuter cette disposition sans augmentation du prix des coins.

Il se conformera d'ailleurs aux arrêtés et réglemens antérieurs, pour tout ce qui n'est point abrogé par la présente instruction.

Des Commissaires du Roi.

Les commissaires du roi sont sous les ordres immédiats de la commission des monnaies, et responsables de l'exécution des instructions qui leur ont été transmises (1) par le président. Ils sont spécialement chargés de surveiller toutes les opérations monétaires, ainsi que les travaux de tous les fonctionnaires; et ils s'assurent si chacun remplit exactement les devoirs qui lui sont imposés.

Ils exercent la police dans les ateliers monétaires (2); s'il s'y commet quelque délit, ils en dressent

(1) Arrêté du Gouvernement du 30 Mai 1803 (10 Prairial, an xi,) art. 17, parag. 3.
(2) Arrêté du Gouvernement du 30 Mai 1803 (10 Prairial, an xi,) art. 17, parag. 1.

dressent procès-verbal, dont ils remettent ou envoient, dans les vingt-quatre heures, expédition à l'autorité judiciaire et au président de la commission.

Les commissaires du roi correspondent avec le président de la commission pour le tenir exactement informé de l'entrée des matières au change, de l'état de la fabrication, des obstacles ou embarras qui pourraient l'entraver et auxquels ils ne croiraient pas pouvoir remédier eux-mêmes ; de la conduite des autres fonctionnaires, si elle donnait lieu à de justes plaintes ; en un mot de tout ce qui peut intéresser le service.

Le commissaire du roi, étant le premier fonctionnaire de l'hôtel des monnaies près lequel il est placé, a l'autorité administrative pour l'exécution des lois, ordonnances et réglemens ; et à ce titre, tous les autres fonctionnaires lui sont subordonnés en tout ce qui a rapport au service.

Nul fonctionnaire ne peut s'absenter sans un congé par écrit du président de la commission, demandé par le commissaire du roi.

Dans ce cas, ou dans celui de maladie, les fonctionnaires, autres que le commissaire du roi, sont tenus, pour éviter toute interruption dans le service, de se faire remplacer par des hommes de leur choix, dont ils demeurent personnellement responsables, et sauf l'approbation du président de la commission.

Le commissaire se fait remplacer par le contrôleur au change.

Le commissaire a le droit de convoquer les fonctionnaires, soit pour leur communiquer les ordres et les instructions qu'il aura reçus du président de la commission, lorsqu'il n'a pas été chargé formellement de leur en remettre extrait certifié par lui, soit pour les entretenir de quelque objet relatif au service.

Pour concilier l'activité des travaux avec la possibilité de les surveiller, les heures du travail sont fixées pour chaque monnaie ; savoir, du 1er Avril au 1er Octobre, de six heures du matin à huit heures du soir, et du 1er Octobre au 1er Avril, de sept heures du matin à sept heures du soir. Toutefois, si l'importance ou l'urgence des travaux l'exigeait, le commissaire du roi pourrait, sur la demande motivée du directeur, et après en avoir obtenu l'approbation du président, autoriser leur prolongation.

Ils proposeront au président de la commission la distribution des logemens, en se concertant à cet égard avec les fonctionnaires qui y ont droit ; et ils tiendront la main à ce que chacun de ces fonctionnaires occupe le logement qui lui aura été assigné dans l'hôtel.

La plus grande surveillance est recommandée au commissaire sur les opérations du change. Il veille également à l'exécution des tarifs qui règlent le prix des matières et espèces qui y sont versées, et il prononce sur les difficultés qui pourraient s'élever entre le public et le directeur.

Il cote et paraphe tous les registres tenus par le directeur, par le contrôleur au change et par le contrôleur au monnayage.

Il vérifie et vise les états et bordereaux réclamés par le président de la commission des monnaies et ceux qui doivent être transmis à la comptabilité générale des finances.

Il est dépositaire des étalons et dénéraux qui doivent servir à la vérification des poids métriques et du poids des pièces.

Il procède, quand il le juge convenable, à la vérification des poids et balances, autres que ceux d'essai. A Paris, l'étalon sera déposé à la commission.

Il vérifie, aussi souvent qu'il le juge nécessaire, si la totalité des matières inscrites sur les registres du contrôleur au change existent, soit dans les ateliers du directeur, soit dans la caisse du change, déduction faite des déchets, du poids des espèces passées en délivrance et des échantillons.

Tous les mois, il adresse au président de la commission, un procès-verbal de vérification de la caisse du change et des matières restées dans les travaux du directeur, conformément au modèle qui lui est adressé.

Il est dépositaire des clefs de la salle du monnayage et de celle des délivrances.

Il reçoit, sur demande adressée par lui au président de la commission des monnaies, les coussinets destinés à marquer les pièces sur tranche, et les coins nécessaires au monnayage, qu'il doit tenir sous clef. Il en fait la remise au contrôleur du monnayage, au fur et à mesure des besoins du service, et tient registre de leur emploi.

Il décide, sur l'avis du contrôleur du monnayage, quand ils sont hors de service, et il les fait difformer immédiatement. Il se fait remettre tous les mois, par le contrôleur du monnayage, un état du nombre des pièces frappées, et indicatif de la durée (terme moyen) des coins mis hors de service.

Cet état est adressé, tous le trois mois, au président de la commission par le commissaire du roi, avec ses observations sur les causes du plus ou moins de durée des coins.

Il fait, tous les trois mois, le renvoi au président de la commission, des coins difformés pendant le trimestre, et y joint l'état de situation des coins et coussinets restans.

Il a soin de faire ses demandes assez à l'avance pour ne pas exposer les travaux à être interrompus, en spécifiant le nombre de coins et de coussinets présumé nécessaire.

Le prélèvement des échantillons, au hasard et sans choix [1] sur chaque fabrication, étant une opération dont la régularité est de la plus haute importance [2], il y sera procédé de la manière suivante :

Indépendamment du mélange qui devra être fait de tous les flans composant une fabrication, aussitôt après le monnayage de ces flans, le commissaire du roi et le contrôleur au monnayage

(1) Articles 21 et 22 de l'ordonnance.
(2) Loi du 28 Mars 1803 (7 Germinal, an xi,) art. 22.

(B.)
French Mint.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

monnayage préleveront, chacun au hasard, cinq pièces (en tout dix) sur chaque manne ou corbeille composant la fabrication, pour réunir toutes ces pièces ainsi prélevées dans une manne particulière, les y mêler, et y prendre, chacun aussi au hasard et sans choix, les trois échantillons (en tout six) qui doivent être enfermés par le commissaire, en présence du directeur et du contrôleur au monnayage, immédiatement et sans être pesés, dans le paquet destiné à être scellé par ces trois fonctionnaires de leurs cachets respectifs, et à être transmis par le commissaire au président de la commission des monnaies (1).

En exécution des articles 23 et 26 de l'ordonnance, le commissaire du roi, qui ne peut procéder à la vérification du poids et de l'empreinte de chaque pièce qu'après la réception du jugement, donne aussitôt connaissance de ce jugement aux fonctionnaires dépositaires des deux autres clefs, fait extraire en leur présence la fabrication jugée de la caisse de dépôt, qui est refermée immédiatement par eux.

Si la refonte est ordonnée, il fera refondre en sa présence, et en celle du directeur et du contrôleur au change, la totalité des pièces composant la fabrication, et il en sera dressé procès-verbal, que signeront les trois fonctionnaires (2).

Si la fabrication a été jugée bonne, le commissaire vérifie scrupuleusement l'empreinte et le poids de chaque pièce, et il rebute toutes celles qui sont défectueuses ou hors des limites de poids, pour être immédiatement refondues comme ci-dessus (3).

Il est dressé de cette opération un procès-verbal qui indique le nombre, le poids et la valeur, 1°. de la totalité de la fabrication; 2°. des pièces rebutées pour être refondues; 3°. des espèces trouvées dans les limites prescrites par la loi, bonnes à être mises en circulation et qui formeront la délivrance à remettre au directeur.

Sur ce second procès-verbal, la commission des monnaies prononce le jugement définitif, dont le président adresse l'expédition au commissaire du roi, lequel en donne extrait certifié au directeur et au contrôleur au change (4); c'est sur cette dernière pièce que la comptabilité du directeur doit être établie définitivement.

Le commissaire pourra se faire aider au bureau de la délivrance par des personnes qu'il choisira, à la charge de demeurer personnellement responsable du poids des pièces et de la beauté des empreintes.

Il lui est alloué, pour indemnité, des frais de comptage, qui sont réglés, sur la proposition du président de la commission, par le ministre des finances.

Il veille à la conservation des bâtimens, des machines et du mobilier appartenant au gouvernement, et à ce que les réparations à la charge des fonctionnaires soient faites exactement.

A chaque mutation de fonctionnaire, il fait dresser, contradictoirement avec celui qui sort (ou, en cas de décès, avec ses ayant-cause), un état des lieux et inventaire des machines et du mobilier appartenant au gouvernement; et il exige que les objets manquans ou détériorés par toute autre cause que par vétusté soient rétablis ou réparés. Il dresse, contradictoirement avec le fonctionnaire entrant en exercice, un semblable état des lieux et inventaire.

Lorsque les bâtimens exigent des réparations à la charge de l'état, il s'adresse à l'ingénieur ou à l'architecte du département ou de la ville, pour qu'il dresse le devis, estimatif des ouvrages à faire. Il adresse ces devis, avec les observations dont il les croit susceptibles, au président de la commission des monnaies, qui les fait vérifier et les approuve, s'il y a lieu.

Dans les cas de dégradations imprévues qui pourraient compromettre la sûreté des bâtimens, le commissaire est tenu de prendre de suite, pour leur conservation, toutes les précautions d'urgence jugées indispensables, jusqu'à ce qu'il puisse procéder aux réparations nécessaires, comme il est dit ci-dessus, et comprendre dans le devis les frais de travaux conservatoires.

La plus grande exactitude est recommandée au commissaire dans l'envoi des mémoires et pièces justificatives de dépenses, à la fin de chaque trimestre, et particulièrement avant la fin de l'année, pour l'ordre de la comptabilité, afin que chaque dépense puisse être réglée en temps utile, pour le trimestre auquel elle s'applique.

Du Directeur de la Fabrication.

A l'avenir, aucun directeur de la fabrication ne pourra entrer en fonctions sans avoir préalablement justifié du versement du cautionnement auquel il est assujetti par l'ordonnance royale du 26 Décembre dernier, qui le rend justiciable de la cour des comptes.

Le directeur ne peut recevoir qu'en présence du contrôleur au change les espèces et matières apportées au bureau du change et destinées à la fabrication.

Il en établit, avec le contrôleur, la valeur, au prix du tarif légal, lequel devra être affiché ostensiblement au bureau; et il s'en charge en recette, d'après le titre connu ou dûment constaté.

Il est seul responsable du paiement des bons qu'il a souscrits. L'échéance de ces bons sera réglée, pour chaque monnaie, par la commission.

Ces bons devront être visés par le contrôleur au change, à leur sortie et lors de leur rentrée.

Il tiendra les livres et registres nécessaires à la reddition de ses comptes et au mouvement des matières destinées à la fabrication et des espèces fabriquées.

Ces

(1) Article 21 de l'ordonnance.
(2) Arrêté du 30 Mai 1803 (10 Prairial, an xi,) art. 39, paragraphe 2.
(3) *Ibidem*, paragraphe premier.
(4) Arrêté du 10 Prairial, an xi (30 Mai 1803), art. 42.

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

Ces livres, dont le nombre et la forme sont déterminés par l'instruction de la comptabilité générale du ministère des finances, en date du 25 Janvier 1828, seront toujours tenus au courant des opérations, de manière que leur seule inspection puisse faire connaître la situation du directeur.

Il est maître de ses fontes et alliages; et il conduit ses travaux comme il l'entend, en se conformant aux lois et réglemens.

Il ne peut, sous aucun prétexte employer dans ses travaux, si ce n'est pour alliage, d'autres matières que celles enregistrées au bureau du change, lesquelles doivent toujours être converties en espèces et servir au paiement des bons revêtus du visa du contrôleur. Toutes les autres matières qu'il pourrait recevoir, à quelque titre que ce soit, et qui ne seraient pas destinées à être immédiatement versées au bureau du change, devront être déposées dans une caisse ou bureau particulier, entièrement séparé des lieux et ateliers affectés à la fabrication.

Il ne peut, sans le consentement de la commission, changer aucune des constructions ni distributions existant dans les lieux et ateliers qu'il occupe dans l'hotel des monnaies.

Il est soumis aux vérifications matérielles qui pourront être ordonnées par le ministre des finances ou par le président de la commission des monnaies, ainsi qu'à celles qui seront jugées nécessaires par le commissaire du roi, auquel il ne peut refuser l'entrée d'aucun de ses ateliers.

Le directeur est dépositaire d'une des clefs de la caisse à trois serrures. Il peut assister à la prise des échantillons, ou s'y faire représenter; mais il doit personnellement signer les procès-verbaux d'envoi des échantillons, ainsi que les procès-verbaux de délivrance des espèces monnayées; et ce sans retard.

Il peut également assister au jugement du titre de ses fabrications, soit en personne lorsqu'il se trouve à Paris en vertu d'un congé délivré par le président de la commission, soit par un fondé de pouvoir.

Il est tenu d'éclairer et de chauffer convenablement le bureau du change et l'atelier du monnayage, et de déférer aux avis du contrôleur du monnayage sur les abus qui résulteraient de la négligence ou de l'incapacité des ouvriers et monnayeurs, et sur la nécessité tant du rodage des coins et rotules que du polissage des carrés.

Il adresse au commissaire du roi les demandes et réclamations qu'il peut avoir à former. Ce fonctionnaire est tenu de les faire parvenir, sans aucun délai, au président de la commission, dont il transmet immédiatement les réponses au directeur de la fabrication.

Les balanciers, les coins et coussinets pour marquer sur tranche, seront seuls fournis par le gouvernement. (Article 3 de l'arrêté du 16 Messidor, an xi.)

Du Contrôleur au Change.

Indépendamment des garanties exigées du directeur, et de la surveillance générale exercée sur toutes les parties de la fabrication, le gouvernement a voulu établir auprès de ce fonctionnaire un surveillant spécial de l'emploi des matières et de la situation matérielle de ses travaux.

Tel est le but des fonctions du contrôleur au change.

Sa dénomination seule indique déjà la nature de ses principales attributions.

Il contrôle toutes les operations du change.

C'est en sa présence (article 17 de l'ordonnance) que le directeur reçoit les matières destinées à la fabrication. Le contrôleur au change en constate l'origine, le poids, le titre et la valeur; il les enregistre, avec indication du nom du propriétaire, de sa qualité et de sa demeure.

Il tient état des bons souscrits et délivrés aux porteurs de matières, de leur montant et de leur échéance.

Il les vise, avant la remise qui doit en être faite, et lorsqu'ils sont présentés au paiement.

Il s'assure que leur échéance est calculée d'après l'importance des fabrications.

Il veille à ce que les intérêts du public ne soient jamais lésés, soit par une fausse application du tarif légal, qui doit être affich éostensiblement au bureau, soit par des erreurs sur le titre ou le poids des matières, soit enfin par le retard du paiement des bons souscrits.

Il réfère immédiatement au commissaire du roi des contestations qui pourraient s'élever, au bureau du change, entre le public et le directeur de la fabrication.

Les registres qu'il devra tenir, conformément à la présente instruction, pour l'enregistrement des matières, l'acquit des bons, ou toute autre écriture relative à son service, lui sont indiqués par la compatabilité générale des finances. (Circulaire en date du 25 Janvier 1828.)

Ils devront toujours être au courant, afin qu'à chaque instant ils puissent servir à vérifier la position des travaux du directeur.

S'il s'élevait quelque difficulté sur le titre des lingots et matières apportés au change, le contrôleur doit requérir que ce titre soit dûment constaté, si les porteurs ne s'arrangeaient pas à l'amiable avec le directeur; auquel cas, le titre réciproquement consenti servira de base à l'enregistrement du contrôleur.

Il doit opérer le cisaillement immédiat des espèces reconnues fausses.

Dans le cas où le titre commun des matières apportées au change, par un particulier serait au-dessous de $\frac{900}{1000}$, le contrôleur doit prévenir le porteur qu'il sera passible du droit d'affinage sur la portion de matières au-dessous dudit titre, et laisser la faculté de les verser à cette condition ou de les remporter.

Il enverra, chaque mois, au président de la commission, par l'intermédiaire du commissaire du roi, qui devra le certifier, un état sommaire de situation conforme au modèle qui lui est adressé, et qui fera connaître la quantité des matières versées au directeur, le montant des

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

espèces passées en délivrance, et le restant dans les travaux, déduction faite des déchets et des échantillons.

Le contrôleur au change est placé sous la direction spéciale du commissaire du roi, qu'il peut être admis à suppléer, lorsqu'il en est requis par ce dernier.

Du Contrôleur au Monnayage.

L'ordonnance royale du 26 Décembre dernier n'a rien changé aux attributions du contrôleur au monnayage.

Il est chargé, sous la direction du commissaire du roi, de surveiller particulièrement les opérations relatives au monnayage et à la marque sur tranche.

Il veille à la conservation des machines à cordonner, des balanciers, des coins et des coussinets.

Il s'assure que les flans sont bien blanchis et recuits de manière à faciliter l'action du balancier et à ménager les carrés. Dans le cas contraire, il peut suspendre le monnayage, et il en réfère immédiatement au commissaire du roi.

Il doit avoir une connaissance parfaite du mécanisme des balanciers, sur lequel il lui a été transmis une instruction spéciale. Il vérifie s'ils sont montés avec soin, ainsi que les coussinets ; il ordonne le changement des pièces accessoires, lorsqu'il y a lieu ; et, à cet effet, il veille à ce que chaque balancier soit convenablement approvisionné de pièces de rechange.

Il doit n'admettre au monnayage que des flans régulièrement découpés, et les soumettre préalablement à un calibre destiné à cet effet, afin de rejeter ceux qui seraient défectueux.

Il doit en constater, contradictoirement avec le directeur, sur le registre à ce destiné, le nombre et le poids.

Il obligera les ouvriers monnayeurs à faire usage du parafaux.

Il

TABLEAU

Des Divers Cas qui peuvent se présenter dans la Vérification du Titre des Espèces,

- Les deux essayeurs opèrent sur deux pièces différentes.
  - Si leurs rapports sont d'accord,
    - dans les limites, - - - - - - - - - - - - - - -
    - hors des limites, le vérificateur opère sur les deux pièces trouvées hors des limites.
      - S'il trouve une des pièces hors des limites, - - - -
      - S'il trouve les deux pièces dans les limites, - - - -
  - Si leurs rapports ne sont pas d'accord,
    - dans les limites, le vérificateur opère sur la troisième pièce.
      - Si son essai est d'accord avec celui d'un essayeur, - - - -
      - S'il est entre ceux des deux essayeurs, / S'il est en dessus ou en dessous de ceux des deux essayeurs, et dans les limites, - - - -
      - S'il trouve là pièce hors des limites, il y a lieu à un essai consultatif, ordonné par le directeur des essais, sur la troisième pièce.
    - l'un dans les limites et l'autre hors des limites, le vérificateur opère sur la pièce hors des limites.
      - S'il la trouve hors des limites, - - - -
      - S'il la trouve dans les limites, - - - -
    - tous deux hors des limites, le vérificateur opère sur les deux pièces hors des limites.
      - S'il trouve une des pièces hors des limites, - - - -
      - S'il trouve les deux pièces dans les limites, - - - -

Il tiendra note de l'emploi des coins et coussinets ; il recherchera les causes qui pourraient s'opposer à leur durée, et les indiquera au commissaire du roi, auquel il remettra exactement ceux reconnus hors de service.

Il est responsable des flans qui lui ont été livrés par le directeur de la fabrication, jusqu'après leur conversion en espèces et leur remise au commissaire du roi, qui en effectue le dépôt dans la caisse à trois clefs ; le contrôleur au monnayage reste dépositaire d'une d'elles.

Ceux des flans qui n'auraient pu être frappés dans le cours de la journée seront par lui rendus en compte au directeur de la fabrication, chaque soir, après la cessation des travaux, pour faire parte de la brève suivante.

Il participe à la prise des échantillons et signe le procès-verbal de leur envoi à la commission des monnaies.

Il veille à ce qu'aucune personne étrangère aux travaux ne puisse s'introduire dans la salle du monnayage sans autorisation.

Disposition Générale.

Aucun fonctionnaire des monnaies ne peut être installé qu'après avoir justifié de la prestation du serment exigé par les lois et réglemens.

La présente instruction rappelant aux divers fonctionnaires des monniaes les dévoirs qu'ils ont à remplir, l'instruction du 24 Thermidor, an xi, (12 Août 1803) et celles qui en dérivent sont et demeurent abrogées.

Fait et arrêté par la commission des monnaies.

Paris, le 15 Février 1828.

(signé) Comte *De Sussy*, Pair de France, Président.
Lambert et *Brunet*, Commissaires Généraux.

Approuvé : Paris, le 5 Mars 1828.

Le Ministre Secrétaire d'Etat des Finances,
(signé) *Roy*.

SYNOPTIQUE

et des Bases qui serviront à asseoir le Jugement de la Commission des Monnaies.

- - - - - - - - - - - - - - - - - - - -				jugement conforme.
- - - - - - - - - - - - - - - - - - - -				refonte.
- - - - -	il y a lieu à une reprise d'essai, par le directeur des essais, sur les deux pièces.	Si le directeur trouve une des pièces hors des limites,	- - - -	refonte.
		S'il trouve les deux pièces dans les limites,	- - - -	terme moyen des quatre essai du vérificateur et du directeur.
- - - - - - - - - - - - - - - - - - - -				jugement conformé.
- - - - - - - - - - - - - - - - - - - -				terme moyen des trois essais des deux essayeurs et du vérificateur.
Si l'essai consultatif est hors des limites,	- - - - - - - - - - - - - - - -			refonte.
Si l'essai consultatif est dans les limites,	il y a lieu à une reprise d'essai par le directeur des essais sur la même pièce.	Si le directeur trouve la pièce hors des limites,	- - - -	refonte.
		S'il la trouve dans les limites,	- - - -	terme moyen des essais primitifs des deux pièces trouvées dans les limites, et du titre trouvé par le directeur des essais pour la troisième pièce.
- - - - - - - - - - - - - - - - - - - -				refonte.
- - - - -	il y a lieu à une reprise d'essai par le directeur des essais sur la même pièce.	Si le directeur trouve la pièce hors des limites,	- - - -	refonte.
		S'il la trouve dans les limites,	le titre déclaré par le vérificateur est enregistré à la place de celui qui avait été trouvé hors des limites par un des essayeurs, et le vérificateur opère sur la troisième pièce.	La vérification du titre se continue, comme dans le cas où les essayeurs ont trouvé les deux premières pièces dans les limites, sans être d'accord sur leur titre.
- - - - - - - - - - - - - - - - - - - -				refonte.
- - - - -	il y a lieu à une reprise par le directeur des essais sur les deux pièces.	Si le directeur en trouve une hors des limites,	- - - -	refonte.
		S'il trouve les deux pièces dans les limites,	- - - -	terme moyen des quatre essais du vérificateur et du directeur.

(Approuvé par la Commission des Monnaies)

(signé) Comte *De Sussy*, Pair de France, Président.
Lambert et *Brunet*, Commissaires Généraux.

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

(F.)

EXTRAIT du BUDGET de 1836.

Numéros. des Art.	Numéros. des Sect.	Numéros. des Paragr.	Désignations des Dépenses et Services.	Nombre des Agens.	Appointemens par An.	Montant de la Dépense.	Total par Service.	Crédits demandés pour 1836.	Crédits accordés pour 1835.
			3e Partie du Budget (Service Général.)						
			CHAPITRE 20. Commission des Monnaies et Medailles.						
			PERSONNEL.						
2	9	- -	Traitement du Président -	1	à 18,000	18,000			
			— du Commissaire Général - -	1	à 10,000	10,000			
			LABORATOIRE DES ESSAIS.						
			Traitement du Directeur des Essais (faisant fonctions de Commre gal.) -	1	à 10,000	10,000			
			Traitement de l' Inspecteur Vérificateur - -	1	à 7,000	7,000			
			Traitement des essayeurs	2	à 5,000	10,000	77,700	77,700	77,700
			— de l'aide essayeur - - - - -	1	à 2,500	2,500			
			Gages d'un garçon de Bureau - - -	1	à 1,000	1,000			
			BUREAU.						
			Traitement du Chef -	1	à 5,000	5,000			
			— des Commis de toutes classes -	5	de 1,200 à 4,000	12,000			
			Gages de l'huissier et du garçon de Bureau -	2	1,000 à 1,200	2,200			
			CHAPITRE 22. SERVICE DANS LES DEPARTEMENS.				Nombre des Agens.		
1	1	1	Traitement des Commissaires du Roi près les établissemens monétaires - - - - - - - -				13	62,000	62,000
		2	Traitement des Contrôleurs au Change - - -				13	36,600	36,600
		3	— des Contrôleurs au Monnayage - - -				13	31,200	31,200
		4	— de l'adjoint au Commissaire du Roi à Paris				1	4,000	4,000
		5	— du Vérificateur à la fabrication des poinçons, coins et bigornes (monnaies et garantie) - - -				1	3,000	3,000
		6	Traitement des employés attachés au Commissaire du Roi, au Contrôleur au Change, au Contrôleur au Monnayage et un garçon de Bureau - - - - -				4	4,600	4,600
		7	Traitement des portiers des hôtels des monnaies et gens de service - - - - - - - -				18	14,200	14,200
	2		Traitement des Conservateur, Contrôleur à la fabrication des médailles, du Préposé à la réception des coins et poinçons et du Gardien du musée - - - -				4	12,000	12,000
	3	1	Traitement d'un Inspecteur de la garantie - - -				1	4,000	4,000
		2	— d'un Vérificateur, commis d'ordre - -				1	3,000	3,000
		3	— Supplémentaire des essayeurs - - -				95	20,000	20,000
2	1	1	Achat de charbon, plomb, acides, coupelles, &a pour le service du laboratoire des essais - - - - - - - -					10,000	10,000
		2	Fournitures des poinçons et matrices des monnaies et reproduction des poinçons et coins des médailles, entretien et frais accessoires - - - - - - - - -					22,000	22,000
		3	Entretien des poids et balances et pertes sur les échantillons de la fabrication - - - - - - - - -					2,500	2,500

Numéros. des Art.	Numéros. des Sect.	Numéros. des Parag.	Désignations des Dépenses et Services.	Crédits demandés pour 1836.	Crédits accordés pour 1835.
2	2	1	Frais de tournée de l'Inspecteur de la garantie - - -	2,000	2,000
		2	Frais de bureau des Essayeurs de la garantie - - - -	2,000	2,000
	3	1	Fournitures de bureau, entretien du mobilier et entretien des gens de service - - - - - - - -	4,000	4,000
		2	Frais de bureau des Commissaires du Roi - - - -	2,000	2,000
		3	Frais de chauffage, d'éclairage & d'illuminations - - -	9,000	9,000
		4	Entretien et réparations des bâtimens - - - - -	28,000	28,000
		5	Frais de transport de caisses et ballots - - - - -	1,500	1,500
		6	Dépenses accidentelles et imprévues (achat de monnaies françaises et étrangeres pour en constater le titre et le dépôt, au médaillier de la commission, &ª.) - - - -	5,000	5,000
				282,600	282,600

(G.)

DOCUMENS OFFICIELS relatifs à la Rectification en France du Mode d'Essai des Matières d'Or et d'Argent, généralement suivi en Europe.

Avant-propos.

Ce n'est pas toujours le siècle où se font les découvertes utiles qui en recueille le fruit. Les fausses traditions, consacrées par l'habitude, sont difficiles à détruire et résistent long-temps à la vérité; le savant qui la consigne dans ses ouvrages ose à peine la révéler, effrayé des obstacles que lui opposeront l'erreur et l'ignorance, soutenues par l'intérêt et protégées par l'usage. On indique seulement la route; mais on tremble de s'y engager, jusqu'au moment où la science, enhardie par l'exactitude de ses expériences, peut les proclamer à haute voix, et montrer dans tout leur jour des résultats qu'elle-même n'avait fait d'abord qu'entrevoir; la prudence amène et augmente la conviction; les inconvéniens qu'on avait redoutés disparaissent; on ne voit plus que les avantages, et l'on s'étonne que des vérités aussi simples, aussi fécondes, aient été si lentes à s'établir.

Il était reconnu depuis long-temps en France que le mode d'essai, par la coupellation, des matières d'argent, n'accusait pas le titre véritable. Le mémoire de M. Tillet, de l'Académie des Sciences, publié en 1760, et l'ordonnance royale du 5 Décembre 1763, cités dans les documens ci-après, ne laissent aucun doute à cet égard.

Cependant, comme ce mode d'essai était suivi dans les principales villes de l'Europe; comme les différences de titres, qu'il assignait à un même alliage, n'étaient pas assez considérables pour motiver de fréquentes réclamations; enfin, comme on craignait d'apporter du trouble dans les transactions de toute nature, par une modification qui aurait peut-être, à cette époque, alarmé le public sur la fidélité du titre des espèces, on continua à suivre un procédé dont l'exactitude n'était point encore contestée.

Toutefois, prévoyant qu'un tel ordre de choses ne pouvait durer, on faisait, sous de la direction de M. d'Arcet, des expériences au laboratoire des assais de la commission des monnaies, pour reconnaître et constater les aberrations du mode d'essai des espèces et matières d'argent par la coupellation.

On remarquait que la perfection toujours croissante des procédés employés pour affiner les métaux précieux, amenait chaque jour une quantité plus considérable de lingots fins aux hôtels des monnaies. Les directeurs de la fabrication qui, jusqu'alors, n'avaient point élevé de réclamations sur le jugement de leur travail, se plaignaient des pertes qu'il leur faisait éprouver, en assignant à leurs fabrications un titre plus bas que celui qui aurait dû résulter des alliages mathématiques qu'ils faisaient des lingots fins qui alimentaient leurs ateliers.

M. d'Arcet, chargé par la commission des monnaies d'examiner ces réclamations réitérées, reconnut qu'elles étaient fondées, et que les essais à la coupelle accusaient, pour les alliages de 897 à 903 millièmes (limites des tolérances monétaires), un titre inférieur, de 4 à 5 millièmes, au titre qui devait résulter de l'alliage mathématique.

Il devenait donc indispensable de remédier à un mal depuis long-temps signalé; mais, pour y parvenir, il était nécessaire, dans une matière aussi délicate, de recueillir tous les faits qui pouvaient éclairer la question, de s'aider des lumières de quelques-uns des membres distingués de l'Académie des Sciences, enfin d'entendre des hommes possédant à un haut degré des connaissances en économie politique, ou attachés à l'administration supérieure.

La commission des monnaies, informée que la question des essais était agitée en Angleterre, sollicita l'autorisation d'envoyer à Londres l'un des essayeurs des monnaies. Par suite du rapport de ce fonctionnaire, constatant qu'on s'occupait en effet en Angleterre des moyens d'accuser le titre véritable des espèces et matières d'argent, la commission des

(B.)
French Mint.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

monnaies proposa au ministre des finances de former une commission spéciale pour examiner:

Les procédés actuels de l'art des essais,

Les modifications dont ils pouvaient être susceptibles,

Et les moyens de prévenir les inconvéniens que des procédés nouveaux pourraient présenter.

Le ministre des finances (*a*), ayant adopté cette proposition, nomma une commission qui s'occupa sans relâche du travail qui lui fut confié, et dont les résultats sont consignés dans le rapport de M. Gay-Lussac (page 3).

Elle reconnut la nécessité de changer le mode d'essayer les espèces et matières d'argent, et de substituer l'essai par la voie humide, dont les résultats sont mathématiques, à l'essai par la coupellation, qui présente de fréquentes inexactitudes; mais elle fit remarquer que les essayeurs du commerce et de la garantie ont toujours été tenus de déclarer le titre véritable des matières qu'ils essayaient, et qu'étant responsables, aux termes des lois, du titre qu'ils accusent, aucun mode d'essai particulier ne peut leur être prescrit.

Quant au mode suivi jusqu'à ce jour pour les essais d'or, dont les résultats sont plus certains, la commission crut ne devoir lui faire subir qu'un léger changement indiqué par l'instruction (page 69).

La commission spéciale avait été d'un avis unanime sur tous les points de la question qui concernait la science; mais le même accord n'avait pas eu lieu pour les mesures administratives.

Chargée par le ministre des finances de lui soumettre ses observations sur l'ensemble de ce travail, la commission des monnaies indique par ses délibérations (pages 41 et 47), les motifs qui la déterminent à adopter l'avis de la majorité de la commission spéciale; le bureau de commerce et des colonies émet la même opinion; enfin, dans son rapport au Roi, s. exc. le ministre secrétaire d'état des finances motive les deux ordonnances, qui consacrent un changement amené par le progrès de la science, et fait connaître les avantages qui doivent en résulter.

L'administration, en publiant tous les documens rassemblés pour cet important travail, a voulu prouver que rien n'avait été négligé pour arriver à la vérité, sans froisser aucun intérêt particulier.

Elle a voulu aussi démontrer que tout ce qui avait été promis, lors de la discussion de la loi du 14 Juin 1829, avait été réalisé; on voit en effet, par le rapport au Roi, que la refonte, dont la dépense était évaluée à 10,200,000 francs, ne coûtera définitivement à l'état que 3,960,000 francs.

Indépendamment de cette réduction des charges que toute refonte de monnaies fait peser sur les contribuables, cette rectification du mode d'essai augmentera encore la masse circulante des matières et des espèces d'argent, de la valeur des 4 millièmes de fin qu'elles contenaient, et qui jusqu'alors n'avaient pas été évalués. Cette nouvelle richesse, acquise à la France et à l'Europe entière, doit être considérée comme une de ces conquêtes de la science, dont les gouvernemens et les particuliers peuvent également s'approprier les avantages, et dont rien ne doit troubler la paisible possession.

RAPPORT sur le Mode d'Essai des Matières d'Or et d'Argent employé en France, fait par M. Gay-Lussac, de l'Académie des Sciences, Membre de la Commission des Essais Nommée par Arrêté de S. Exc. le Ministre des Finances, du 18 Novembre 1829.

Un arrêté de son exc. le ministre des finances, M. le Comte de Chabrol, en date du 18 Novembre 1829, relatif au mode d'essai des matières d'or et d'argent, et pris sur le rapport de la commission des monnaies, est ainsi conçu :

Article premier.

Il est créé une commission chargée,

1°. D'examiner le mode d'essai, actuellement en usage au laboratoire des monnaies à Paris, pour l'essai des matières et espèces d'or et d'argent;

2°. De constater et indiquer les changemens dont ce mode d'essai peut être susceptible, en faisant connaître, en même temps, les effets qu'un nouveau mode d'essai pourrait avoir relativement aux intérêts commerciaux de la France;

3°. De donner son avis sur l'époque à laquelle un semblable changement, s'il était reconnu nécessaire, devrait avoir lieu, ainsi que sur la question de savoir si le nouveau mode d'essai devrait être généralisé et rendu obligatoire pour les bureaux de garantie et les essayeurs du commerce.

La commission est également appelée à présenter ses vues sur les moyens d'exécution de cette mesure, et à faire connaître si, dans l'état actuel de la législation sur la matière, une ordonnance royale lui paraîtrait suffisante pour la réaliser.

Art. 2.

La commission, créée par l'article 1er. du présent arrêté, tiendra ses séances dans l'une des salles du laboratoire des essais à Paris. Elle est autorisée à requérir toutes les expériences et à réclamer tous les documens qu'elle jugera nécessaires pour éclairer son opinion.

(*a*) L'arrêté du ministre qui nomme cette commission est relaté au commencement du rapport de M. Gay-Lussac, l'un de ses membres (page 5).

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

ART. 3.

Sont nommés membres de cette commission :

S. S. le Comte Chaptal, pair de France, Membre de l'Académie des Sciences, Président ;
MM. le Baron de Freville, Conseiller d'Etat ;
le Baron Thénard, } Membres de la Chambre des Députés et de l'Académie des
Vauquelin, (*a*) } Sciences ;
Gay Lussac, de l'Académie des Sciences ;
Masson, maître des requêtes ;
Say, Professeur d'Economie Industrielle au Conservatoire Royal des Arts et Métiers ;
Benoît Fould, banquier.

Conformément à cet arrêté, la commission qu'il crée s'est réunie, le 26 Novembre, à l'Hôtel des Monnaies, sous la présidence de S. S. le Comte Chaptal. Après avoir appris de S. S. le Comte de Sussy, pair de France, président de la commission des monnaies, le véritable état de la question soumise à son examen, et en avoir reçu les nombreux documens qui s'y rattachaient, elle a arrêté le plan des opérations auxquelles elle devait se livrer pour s'éclairer et former son opinion.

L'examen demandé par son exc. a été motivé sur des réclamations qui lui ont été adressées par MM. les directeurs des monnaies. Ils prétendent que le mode d'essai, suivi dans le laboratoire de la commission des monnaies, n'est pas un juge fidèle du titre des espèces d'argent, par eux fabriquées ; qu'il déguise de 3 à 4 millièmes d'argent, c'est-à-dire, qu'un lingot mathématiquement composé de 900 millièmes d'argent fin et de 100 millièmes de cuivre ne revient à l'essai qu'à 897 ou 896 millièmes, tandis que l'argent fin, ou à 1,000 millièmes, revient à peu près à son véritable titre.

Conséquemment, un directeur de monnaie qui composerait son alliage avec de l'argent fin devrait en employer 903 ou 904 millièmes, pour que, à l'essai, dans le laboratoire des monnaies, il revînt au titre de 900 millièmes. Ces 3 ou 4 millièmes seraient perdus pour lui, puisqu'ils seraient déguisés par le mode d'essai, juge définitif de la quantité d'argent dont le gouvernement tient compte au fabricant de monnaies.

Telle est l'origine de la question grave maintenant agitée et soumise à l'examen de la commission. Cette question ne touche pas seulement aux intérêts des directeurs des monnaies ; elle embrasse aussi ceux du commerce et de l'industrie des matières d'or et d'argent. Mais les essais des matières d'or n'ayant pas été l'objet de réclamations comme ceux des matières d'argent, parce qu'ils sont plus rigoureux, c'est principalement de ces derniers que nous aurons à nous occuper.

Aussitôt que la perte d'argent, dans le procédé d'essai suivi jusqu'à ce jour, de laquelle se plaignent les directeurs de monnaies, eut été dénoncée à l'administration, M. d'Arcet, directeur des essais, fut invité à la constater officiellement. Des alliages, formés synthétiquement en réunissant des quantités connues d'argent pur et de cuivre, ont été soumis au mode d'essai en usage dans le laboratoire des monnaies, et ont donné les résultats suivans :

TABLEAU (A).—ESSAIS faits dans le Laboratoire de la Commission des Monnaies, avec des Alliages connus d'Argent et de Cuivre.

Titres de l'Argent.	Quantité de Plomb employée.	Titre trouvé.	Pertes.	
Millièmes.	Grammes.	Millièmes.	Millièmes.	
1,000	0 3	999 0	1 00	
950	3 0	948 71	1 29	
900	7 0	895 65	4 35	
800	10 0	795 13	4 87	moyenne 4m 3
700	12 0	696 07	3 93	
600 (*b*).	7 0	596 07	3 93	
500	8 5	495 80	4 20	
400	8 5	396 25	3 75	
300	8 5	296 71	3 29	
200	8 5	198 42	1 58	
100	8 5	99 63	0 37	

(*b*) Ces essais et les suivans ont été faits au demi-gramme.

Il résulte de ces expériences de M. d'Arcet, que l'essai des matières d'argent donne constamment une perte, mais variable avec le titre de l'alliage.

Elle est de 1 millième pour l'argent fin,
de 4m 3 pour l'argent à 900 millièmes,
de 4. 9 pour l'argent à 800,
de 4. 2 pour l'argent à 500,

et diminue ensuite progressivement, jusqu'a l'alliage ne contenant que 100 millièmes d'argent, pour lequel la perte est seulement de 0m 4.

Des essais semblables, demandés par la commission des monnaies aux essayeurs de Paris,

(*a*) M. Vauquelin, étant décédé, a été remplacé par M. Dulong, membre de l'Académie des Sciences.

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

Paris, aux essayeurs des bureaux de garantie, et à ceux des principales places de l'Europe, auxquels les mêmes alliages, composés synthétiquement, avaient été envoyés, ont donné les résultats inscrits dans les trois tableaux B, C, D, qui suivent :

TABLEAU (B).—ESSAIS faits, le 15 Octobre 1829, par les Essayeurs de Paris.

Noms des Essayeurs du Commerce de Paris.	Lingot à 950 Millièmes.	Lingot à 900 Millièmes.	Lingot à 800 Millièmes.	Pertes.		
	Millièmes.	Millièmes.	Millièmes.			
MM. Genneau -	947	895	793	3m	5m	7m
Bonneville -	947	897	795	3	3	5
Lecour - -	948	894	798	2	6	2
Hunot - -	945	898	797	5	2	3
Dufay - -	948	898	792	2	2	8
D'Hennin - -	947	899	796	3	1	4
Vauquelin -	946	895	794	4	5	6

TABLEAU (C).—ESSAIS faits par les Essayeurs des Bureaux de Garantie.

Noms des Essayeurs.	Noms des Bureaux.	Lingots à 950 Millièmes.			Lingots à 900 Millièmes.			Lingots à 800 Millièmes.		
		m	m	m	m	m	m	m	m	m
MM. Vauquelin -	Paris - -	945	945	946	896	896	896	795	795	794½
Lefèvre -	Rouen - -	947	947	947	897	897	897	796	796	796
Fallot -	Montbelliard -	946	945½	945	893	896	897	793	793	791½
Varielhes -	Bordeaux -	949	948	947½	895	896	896	792	791	791
Mourgeon -	Besançon -	947	947	946	898½	898	898	799	799	798
Prévost -	Marseille -	950	950	951	896½	897	897½	794	796	797
Vivien -	Strasbourg -	949½	000	949½	898	000	896½	795	000	795
Coulange -	Nîmes - -	948	948	942	897	894	897	793	788	787
Devancennée	Lille - -	948	948 fort.	948	899	900 faible.	898	797	797	796
Perret -	Lyon - -	945	945½	945	895	895	896	793½	796	794
Essayeurs de la commiss. des monnaies.	Paris - -	Mill. 948	7		Mill. 895	6		Mill. 795	1	

TABLEAU (D).—ESSAIS d'ARGENT faits par les Essayeurs Etrangers.

Noms des Essayeurs.	Villes où ils se trouvent.	Titres trouvés aux Alliages Mathématiques de						Observations.
		950 mill.		900 mill.		800 mill.		
F. de Castenholz, essayeur de la monnaie - -	Vienne -	946m	20	898m	40	795m	10	
Antonio Rafaël Vervaëz, essayeur de la monnaie -	Madrid -	944	40	893	70	789	20	
D. Miguel Cabrera, essayeur en Espagne - - -	Idem -	944	40	893	70	788	60	
Bingley (1), essayeur de la monnaie - - -	Londres -	946	25	896	25	794	25	(1) Avec compensation.
Johnson (2), essayeur -	Idem -	933	33	883	50	783	33	(2) Sans compensation.
***, essayeur - - -	Amsterdam	947	00	895	00	795	00	
***, inspecteur, essayeur général des monnaies -	Utrecht -	945	00	896	50	799	00	
Essayeur de la monnaie -	Naples -	945	00	891	00	787	00	
Essayeur du commerce -	Idem -	941	00	891	00	791	00	
Schlabsy, essayeur de la monnaie - - -	Hambourg -	946	1/2	897	1/2	798	1/2	Ces renseignemens ont été reçus à la commission des monnaies, après la rédaction du présent rapport.
Ausborn, essayeur de la monnaie - - -	Altona -	942	3/4	894	00	790	00	

Les

3/3

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

Les résultats nombreux que l'on vient de citer, et qui ont été obtenus par les meilleurs essayeurs de l'Europe, sur des alliages identiques d'argent et de cuivre, prouvent que le mode d'essai qui leur est appliqué en accuse généralement le titre trop bas, et de plus, que la quantité d'argent déguisée n'est pas la même pour chaque essayeur.

Un alliage, par exemple, au titre de 900 millièmes, est jugé à la monnaie de Paris au titre de	895[m]	6
A celle de Vienne, de	898	4
A celle de Madrid, de	893	7
A celle de Naples, de	891	0

Nous reviendrons plus bas sur cette dernière circonstance, qui, sans doute, est restée jusqu'à présent inaperçue ou méprisée dans les relations commerciales.

Le fait si bien constaté d'une déperdition dans le titre des matières d'argent mérite la plus sérieuse attention, et il paraîtra étonnant peut-être que, se reproduisant chaque jour, il soit resté si long-temps ignoré. Dans la réalité, ce fait n'est point nouveau ; les expériences très-nombreuses et très-bien faites de Tillet, qui datent de 1760 à 1763, et qui sont rapportées dans les mémoires de l'Académie des Sciences, constatent dans les essais d'argent une perte même plus grande que celle qui est éprouvée au laboratoire de la commission des monnaies. M. d'Arcet n'ignorait pas cette perte ; mais, pour concevoir comment on n'y a pas eu égard depuis le grand nombre d'années qu'elle est connue, il suffira de citer les expressions mêmes de Tillet. Ce savant chimiste, après avoir constaté la perte d'argent que faisait éprouver le mode d'essai, ajoute :

" Qu'on observe encore que toutes les nations ayant, quant au fond, la même méthode d'essayer l'argent que nous pratiquons en France, doivent perdre aussi, soit un peu plus, soit un peu moins que nous, sur la valeur des matières qui circulent chez elles, et alors on sentira que d'une particule d'argent négligée il résulte des non-valeurs dont le montant a de quoi étonner ; je dis non-valeurs simplement, parce que les fonds existent, et qu'ils n'auraient besoin, pour entrer dans le commerce de toutes les nations, que du concert des princes qui les gouvernent. Je ne me dissimule point à moi-même la grande difficulté qu'il y aurait à établir ce concert parmi les puissances, quelqu'utile qu'il fût par l'augmentation prodigieuse de matière d'argent allié, et l'invariabilité du titre qui en seraient les suites. Il y aurait lieu d'espérer sans doute que le méthode que j'indique, ou plutôt la vérité que je propose, pourrait s'accréditer de proche en proche, si elle était une fois adoptée par un état tel que la France, sur lequel les autres ont les yeux, ou tel que l'Espagne que des mines abondantes mettent à portée continuellement d'en verser le produit. Mais tel est le sort de certaines vérités en physique qui sont liées au grand mobile d'un état : à quelque évidence qu'on les porte, et quoique leur utilité soit démontrée, il est rare qu'on puisse les établir, au moins dans toute leur étendue, dès que ces vérités exigent un changement dans les pratiques reçues et autorisées par des formes authentiques : on craint les secousses momentanées qu'elles occasionneraient, et l'on tolère, par circonspection, les inconvéniens dont elles seraient le remède.

" S'il est donc de la sagesse du gouvernement de ne pas faire usage quelquefois de ces vérités, et d'attendre du temps la facilité de les mettre en vigueur, il n'est jamais avantageux de les ignorer : elles sont indépendantes de l'ordre politique ; leur lumière subsiste lors même qu'on arrête l'effet général où elles tendent, et s'il vient à s'élever quelque système spécieux qui ait du rapport avec ces vérités, elles se présentent d'abord à l'esprit comme autant de points immuables sur lesquels le système est bientôt jugé."

Si, à l'époque où Tillet écrivait ce passage remarquable, le gouvernement ne crut pas devoir ordonner de changement dans le mode d'essai alors en usage, si ce n'est dans les quantités de plomb nécessaires pour mieux approcher du titre de chaque alliage, on concevra sans peine comment il s'est transmis jusqu'à nous avec ses imperfections, et comment les diverses administrations des monnaies qui se sont succédées l'ont conservé dans son intégrité. Mais aujourd'hui les circonstances ne sont plus les mêmes ; les connaissances chimiques sont plus répandues ; l'affinage, qui a fait de grands progrès, verse, dans le commerce, de l'argent entièrement pur. Les prestiges d'exactitude, attribués à l'essai par la coupellation, sont détruits ; la vérité perce de toutes parts et devient impérieuse. Un nouvel examen du mode d'essai est rendu nécessaire.

Malgré le grand nombre de faits authentiques qui ont été communiqués à la commission, ou qu'elle connaissait déjà, relativement à la quantité d'argent déguisée dans les essais, l'importance de la mission qui lui était confiée l'a déterminée à faire répéter sous ses yeux, au laboratoire des monnaies, les essais d'alliages mathématiques d'argent et de cuivre, dans des proportions variées et en suivant strictement le mode d'essai en usage dans ce laboratoire ; lequel consiste à passer l'alliage, à la coupelle, avec une quantité covenable de plomb, d'après la table publiée par M. d'Arcet, en 1816. (Annales de Chimie et de Physique, tome i, page 66.)

Les manipulations ont été confiées à MM. Chaudet et Chevillot, essayeurs de la commission des monnaies.

Les résultats sont inscrits dans le tableau (E.), tels qu'ils ont été obtenus.

(B.)
FRENCH MINT.
Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

TABLEAU (E.)—ESSAIS faits sous les yeux de la Commission.

Titres de l'Argent.	Quantités de Plomb employées.	Titres de M. Chaudet.	Pertes éprouvées.	Titres de M. Chevillot.	Pertes éprouvées.
Millièmes.	Grammes.				
1,000	0 300	997m 998m 12	3m 1m 88	999m 25m 999	0m 75m 1
950	3 000	948	2 00	948 00	2 00
900	7 000	(*b*) 897 50	2 50	896 50	3 50
800	10 000	797	3 00	796 75	3 25
700	12 000	697	3 00	695 25	4 75
600 (*a*)	7 000	595 12	4 88	595 00	5 00
500	8 5	495 12	4 88	496 25	3 75
400	8 5	395	5 00	396 75	3 25
300	8 5	297	3 00	298 75	1 25
200	8 5	196 88	3 12	198 75	1 25
100	8 5	98 88	1 12	100	0 00

(*a*) Ces essais et les suivans ont été faits au demi-gramme.
(*b*) Cet essai a fini très-froid, et je pense qu'il a conservé de l'alliage (Chaudet).

On voit, par ce tableau, que l'argent pur ou à 1,000 millièmes n'est pas revenu exactement à son véritable titre.

M. Chaudet a éprouvé une perte de 1m 9 à 3 millièmes, et M. Chevillot seulement de 0m 75 à 1m. L'alliage à 900m est revenu aux titres de 897m 5, et 896m 5; en général, tous les alliages ont éprouvé des pertes à l'essai. Ces pertes vont en croissant, depuis l'argent pur, jusqu'à l'argent à 6 ou 500 millièmes, et vont ensuite en diminuant jusqu'à l'argent à 100 millièmes. On peut remarquer qu'elles ne sont pas les mêmes pour les deux essayeurs; que la différence s'élève à 1m 5, bien qu'on ne puisse leur refuser ni une longue expérience, ni une grande habileté. Ce fait, amplement confirmé par les titres fournis par les essayeurs de Paris et ceux des bureaux de garantie, mérite d'être signalé; enfin, en comparant les moyennes de chaque titre des alliages du tableau (A.) avec celles du tableau (E.), qui ont été obtenues par les mêmes opérateurs, on y découvre des différences de plus de 1m 5.

La perte par l'essai dans les matières d'argent vient de ce que, pendant l'opération, une partie d'argent est entraînée, par l'oxide de plomb, dans la coupelle, soit à l'état métallique, soit plutôt à l'état d'oxide. Si l'on traite en effet cette coupelle par des procédés convenables, ainsi que le pratiquait Tillet, on en retire un petit bouton d'argent, dont le poids, ajouté à celui du bouton principal, dépasse même le poids de l'argent fin contenu dans l'alliage soumis à l'essai. Ainsi, un alliage mathématique au titre de 900m a donné un bouton du poids de 896m 2; mais en réduisant la partie de la coupelle imprégnée d'oxide de plomb, on a obtenu un petit bouton d'argent du poids de 8 millièmes qui, ajoutés à 896m 2, donnent 904m, 2 au lieu de 900m qu'on devait avoir. La surcharge de 4m 2 doit être attribuée à du plomb et à du cuivre restés dans le bouton de retour; elle n'est point d'ailleurs constante, et peut varier avec la quantité d'argent réellement absorbée par la coupelle, d'après la manière dont l'essai est conduit par l'opérateur. Au reste, elle n'a aucune influence fâcheuse sur le véritable titre de l'alliage; au contraire, elle corrige en partie la perte que l'essai lui fait éprouver, et la coupellation pourrait être dirigée de manière que le poids de l'alliage, retenu par le bouton de retour, compensât exactement celui de l'argent absorbé par la coupelle. C'est ce qu'a fait récemment M. Chaudet, en suivant les indications de la commission de l'Académie des Sciences, nommée en 1763; c'est-à-dire, en opérant avec des coupelles d'une pâte très-fine et très-compacte et à une température peu élevée. Des alliages à 950m, 900m et 800 millièmes essayés en ayant égard à ces circonstances, sont revenus au titre de 949m 5, 899m 6—799m 8. Ces derniers nombres sont à la vérité des moyennes; mais les titres partiels ont très-rarement différé des véritables titres, de 2 millièmes, comme on peut le voir par le tableau (F.) renfermant les résultats de M. Chaudet.

TABLEAU (F.)—ESSAIS faits par *M. Chaudet*, en opérant à une température peu élevée, et avec des Coupelles d'une Pâte très-fine et très-compacte.

Essai d'un Alliage Mathématique à 950 millièmes.	Différences.	Essai d'un Alliage Mathématique à 900 millièmes.	Différences.	Essai d'un Alliage Mathématique à 800 millièmes.	Différences.
949m 50	— 0m 50	901m 00	+ 1m 00	799m 00	— 1m 00
949 50	— 0 50	898 00	— 2 00	799 00	— 1 00
949 00	— 1 00	899 50	— 0 50	800 75	+ 0 75
949 50	— 0 50	899 00	— 1 00	798 75	— 1 25
950 00	0 00	901 50	+ 1 50	800 25	+ 0 25
949 50	— 0 50	899 25	— 0 75	801 00	+ 1 00
		899 00	— 1 00		
		898 25	— 1 75		
		901 50	+ 1 50		
Moyenne, 949m 50.		Moyenne, 899m 66.		Moyenne, 799m 79.	

En

En opérant au contraire à des températures élevées, la différence du titre vrai, au titre accusé par l'essai, devient de plus en plus sensible. Ainsi, un alliage mathématique au titre de 900 millièmes est revenu :

A une température basse,		au titre de	899m	5.	Perte	0m	5.
—	moyenne,	—	896	0	—	4	0.
—	élevée,	—	892	0	—	8	0.

Avec des coupelles profondes, à la température ordinaire des essais, on obtient les mêmes résultats qu'en opérant avec des coupelles communes à une basse température, parce que les bords élevés des coupelles s'opposant au renouvellement de l'air à la surface du bain, l'oxidation du plomb est plus lente, et l'élévation de température, due à la fixation de l'oxigène, moins grande. Aussi faut-il environ deux fois plus de temps pour passer un essai dans une coupelle profonde, que dans une coupelle à bords plats.

En se servant de coupelles d'une pâte très-fine et très-serrée, par lesquelles l'imbibition de l'oxide de plomb se fait plus lentement que par des coupelles d'un tissu plus lâche et plus grossier, la durée de la coupellation est aussi un peu plus grande, et les titres des alliages accusés par l'essai diffèrent un peu moins des véritables.

Enfin, le titre des matières d'argent peut varier selon les doses de plomb employées pour la coupellation. Ainsi, toutes circonstances égales d'ailleurs, l'argent fin essayé avec le tiers de son poids de plomb revient sensiblement à son véritable titre, tandis que, passé à la coupelle avec deux ou trois parties de plomb, il peut perdre de 2 à 3 millièmes.

De ces causes nombreuses de variations dans le titre des matières d'argent, et des résultats différens donnés par la plupart des essayeurs pour le même alliage, il résulte évidemment que, bien que le procédé par la coupellation soit généralement employé, il est si diversement exécuté qu'on ne peut dire qu'il soit partout rigoureusement le même. A Paris en effet, un alliage mathématique de 900 millièmes est titré à 896m 0, tandis qu'à Madrid et à Naples le même alliage ne l'est qu'à 893m 7, et 891m; c'est-à-dire que la différence des titres à Paris et à Naples est même plus grande que celle qui a donné lieu à la question maintenant agitée. Nous donnons à cette circonstance une très-grande importance, puisqu'elle nous permet de conclure que les principales monnaies de l'Europe ne jugent pas le titre des matières d'argent de la même manière.—Voir les tableaux (A.) et (D.)

En revenant maintenant au mode d'essai usité en France, nous prouverons que la quantité variable d'argent, que ce mode déguise, n'est pas une conséquence nécessaire du procédé, mais bien de la manière dont il est dirigé.

Les causes principales qui font varier le résultat des essais sont la dose de plomb employée dans la coupellation, et, surtout, la température ; en les réglant l'une et l'autre convenablement, on peut faire accuser à l'essai le véritable titre d'un alliage, ainsi que le prouvent les résultats inscrits dans le tableau (F.) Il est également certain que l'argent fin et celui qui est très-peu allié ressortent de l'essai avec leur véritable titre ou à très-peu de chose près, dans le laboratoire des essais même de la commission de monnaies. Enfin, si l'on compare les résultats des essayeurs des bureaux de garantie et de ceux du commerce, qui sont renfermés dans les tableaux (B.) et (C.), on verra que si quelques essayeurs se sont écartés de 5 à 6 millièmes des véritables titres, d'autres les ont donnés à 1 ou 2 millièmes près. Ajoutons encore que la table des doses de plomb publiée par M. d'Arcet, en 1816, et que nous avons citée, avait eu pour objet de faire accuser à l'essai le véritable titre, en réglant en même temps la température, et que M. Chaudet, avec ces doses de plomb et une basse température, tableau (E.), est en effet parvenu aux titres réels. Il est à regretter qu'en adoptant la table des doses de plomb de M. d'Arcet, on n'ait pas eu égard aux circonstances dans lesquelles elle avait été faite, et qu'on se soit borné à accuser vrai le titre de l'argent fin ou peu allié. Mieux eût valu ne rien changer; car, avant cette époque, l'argent fin éprouvant à l'essai une perte de 2 à 3 millièmes, la discordance de titre entre cet argent et l'argent allié n'était pas aussi grande, et on peut dire aussi choquante, qu'elle l'est aujourd'hui.

Ces observations sont faites pour montrer que le mode d'essai, en usage aujourd'hui, ne donne point des titres uniformes, qu'il est différemment exécuté par chaque essayeur et qu'il varie même avec les tems. On concevra sans peine ces variations, si nous faisons remarquer qu'il n'existe pas de réglement précis et obligatoire sur le mode d'essai des matières d'argent, et qu'il ne peut y en avoir, attendu qu'il dépend de circonstances trop fugitives (comme la température) pour être définies, et qu'elles ont dû être laissées à l'habileté et à la responsabilité des essayeurs.

Or, s'il est certain, d'une part, que le mode d'essai donne, selon les habitudes des essayeurs, des titres qui diffèrent de 4 à 6 millièmes des véritables, mais souvent aussi de 2 à 3 mill. seulement ; si de l'autre, le mode d'essai peut-être dirigé de manière à accuser les véritables titres ; si enfin, jusqu'à présent, administrateurs et administrés, tous ont cru qu'ils les donnaient effectivement, le parti qu'il convient de prendre ne saurait être douteux ; dès que l'on connaît la fausse route où l'on était engagé, on doit s'empresser de l'abandonner et prendre la vraie, en titrant exactement les matières d'argent.

Deux moyens se présentent pour obtenir ce résultat en conservant le mode d'essai par la coupellation.

Le premier consisterait à faire les essais en réglant la température et les doses de plomb,

(B.)
French Mint.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

de manière que le poids du bouton de retour fût égal au poids de l'argent fin contenu dans l'alliage.

Le second moyen conserverait à l'essayeur sa manière actuelle, fruit d'une longue expérience, de diriger ses essais. Il exigerait seulement que l'essayeur déterminât le titre d'une série d'alliages connus d'argent et de cuivre, et qu'il se fît, des pertes qu'éprouverait chaque alliage, une table de correction au moyen de laquelle, il arriverait très-sûrement, du titre accusé d'un alliage, à son véritable titre. Si, par exemple, un alliage mathématique de 900 millièmes n'était trouvé par lui qu'au titre de 896 millièmes, il devrait, lorsqu'un alliage ressortirait de sa coupelle au titre de 896 millièmes, lui ajouter 4 millièmes pour en avoir le véritable titre. Il pourrait éviter cette correction facile, et la faire dans la coupelle même, en ajoutant au plomb une quantité d'argent égale à celle qui est déguisée dans l'essai: mais ce procédé ne serait avantageux que pour les alliages à titre à-peu-près constant, comme les monnaies; car pour les titres variables il faudrait composer un trop grand nombre d'espèces de plomb argentifère.

On vient de voir que si le mode d'essai par la coupellation est défectueux, en ce qu'il n'accuse pas le véritable titre des matières d'argent, il est facile de le rendre exact, soit en le dirigeant de manière qu'il donne immédiatement le véritable titre, soit en laissant chaque essayeur se faire une table de compensation conforme à sa manière particulière d'opérer. On peut donc regarder comme certain que, quel que soit le titre d'un alliage d'argent, on peut parvenir à le déterminer très-approximativement par le procédé de la coupellation; cependant on peut reprocher à ce procédé d'être trop dépendant des circonstances variables que l'opérateur le plus habile a de la peine à maîtriser, et de le laisser souvent dans l'incertitude de 1 à 2 millièmes sur le résultat d'un essai; à moins que, pour maintenir d'accord sa table de correction et sa manière d'opérer, qui pourrait n'être pas la même le soir que le matin, il ne passe en même temps à la coupelle, comme témoins, des alliages d'un titre connu; encore n'est-il pas complétement sûr de ne pas commettre quelqu'erreur.

Un mode d'essai quelconque, pour donner sûrement le titre des matières d'argent, devrait donc être tout-à-fait indépendant de ces circonstances variables, si difficiles à maîtriser quand on n'a d'autres moyens que le jugement trompeur des sens. Tel est en effet le procédé qu'il nous reste à décrire, et que nous désignerons par le nom de procédé par la voie humide. Il a été proposé récemment par l'un des membres de la commission, M. Gay-Lussac, qui en avait déjà constaté l'exactitude. Ce procédé est fondé sur la propriété qu'a l'argent, dissous dans l'acide nitrique, d'être précipité, en chlorure d'argent complétement insoluble, par une dissolution de sel marin ou d'acide hydrochlorique; mais au lieu de déterminer le poids du chlorure d'argent (ce qui serait peu sûr à cause de la difficulté de le dessécher exactement, et surtout beaucoup trop long) on prend le poids de la dissolution de sel marin qui a été nécessaire pour la précipitation de l'argent. Pour mettre le procédé à exécution, on prépare une liqueur composée d'eau et de sel marin (ou d'eau et d'acide hydrochlorique) dans de telles proportions que 100 grammes de cette liqueur précipitent entièrement 2 grammes d'argent, pur ou au titre de 1,000 millièmes, prealablement dissous dans l'acide nitrique; la liqueur, ainsi préparée, donne immédiatement le véritable titre d'un alliage quelconque d'argent et de cuivre, par le poids qu'il en faut pour précipiter 2 grammes de cet alliage; si, par exemple, il a fallu 90 grammes 5, de liqueur pour précipiter les deux grammes d'alliage, le titre de ce dernier sera de 905 millièmes.

Le procédé par la voie humide est pour ainsi dire indépendant de l'opérateur. Les manipulations en sont faciles, et ne consistent qu'en pesées ou en mesures faciles à prendre; le terme de l'opération est très-distinctement annoncé par l'absence de nébulosités très-sensibles par l'affusion du sel marin dans la dissolution d'argent, tant qu'il reste dans cette dernière 1/2 millième de métal. Le procédé n'est pas non plus d'une longue exécution, et dans des mains exercées il pourra rivaliser, sous ce rapport, avec le procédé de la coupellation; il aura même, sur ce dernier, l'avantage d'être beaucoup plus à la portée de tout le monde, et de ne pas exiger un aussi long apprentissage. Il sera surtout utile aux essayeurs qui n'ont journellement qu'un petit nombre d'essais à faire, en ce qu'il leur demandera moins de temps et de dépense. Enfin, ses indications sont très-sûres et l'on peut prétendre, en l'employant, à déterminer, à 1/2 millième près, le titre d'un alliage; mais ce n'est pas ici le lieu de décrire les manipulations dont il se compose; une instruction sera nécessaire pour apprendre aux essayeurs la manière de s'en servir. Il suffira de dire que M. D'Arcet, qui s'est empressé de l'examiner et qui en a perfectionné quelques manipulations, en a reconnu les avantages et lui a donné son assentiment; déjà même il s'en est servi pour corriger les indications du procédé par la coupellation, et les résultats qu'il a obtenus nous ont paru assez importans pour être consignés dans ce rapport.

M. D'Arcet a fait essayer comparativement, par l'ancien procédé et le nouveau, 40 pièces de cinq francs nouvellement fabriquées et adressées à la commission des monnaies pour que le titre en fût constaté avant leur émission. Chaque essai a été fait double; les pièces ont été partagées entre MM. Chaudet et Chevillot, essayeurs des monnaies; les titres obtenus sont l'objet des deux tableaux (G.) et (H.)

TABLEAU (G.)—ESSAIS d'ARGENT par la Voie Sèche et par la Voie Humide. *M. Chaudet.*

Dates de l'Envoi.	Numéros des Pièces.	Titres par le Procédé Ordinaire.	Titres par la Voie Humide.	Différences.
8 Janvier 1830	1	899m 00	903m 10	4m 10
9 — —	1	898 25	902 10	3 85
11 — —	3	900 50	905 30	4 80
12 — —	1	898 75	903 10	4 35
13 — —	1	898 00	903 50	5 50
14 — —	1	901 00	904 50	3 50
15 — —	1	901 00	904 00	3 00
18 — —	1	897 00	901 10	4 10
19 — —	1	899 75	902 65	2 90
20 — —	1	901 25	903 45	2 20
21 — —	1	898 00	902 00	4 00
22 — —	1	900 25	905 30	5 05
23 — —	1	899 00	904 20	5 20
25 — —	1	901 50	905 75	4 25
26 — —	3	899 00	902 10	3 10
27 — —	1	899 25	903 00	3 75
28 — —	1	899 50	903 70	4 20
29 — —	1	901 00	905 00	4 00
30 — —	1	899 00	903 35	4 35
1er Février —	1	898 00	902 10	4 10
		Moyenne, 899m 45	Moyenne, 903m 45	Moyenne, 4m 01

TABLEAU (H.)—ESSAIS d'ARGENT par la Voie Sèche et par la Voie Humide. *M. Chevillot.*

Dates de l'Envoi.	Numéros des Pièces.	Titres par le Procédé Ordinaire.	Titres par la Voie Humide.	Différences.
8 Janvier 1830	2	900m 00	905m 00	5m 00
9 — —	2	898 75	901 30	2 55
11 — —	2	899 25	903 50	4 25
12 — —	1	899 25	902 16	2 91
13 — —	1	899 00	904 00	5 00
14 — —	1	900 00	902 20	2 20
15 — —	3	899 50	902 60	3 10
18 — —	3	900 50	905 00	4 50
19 — —	3	900 50	904 25	3 75
20 — —	3	900 00	902 50	2 50
21 — —	1	898 00	900 18	2 18
22 — —	2	900 00	904 25	4 25
23 — —	2	900 25	904 85	4 60
25 — —	4	900 00	906 00	6 00
26 — —	1	900 00	904 50	4 50
27 — —	1	899 25	902 40	3 15
28 — —	2	899 50	904 00	4 50
29 — —	1	899 50	905 50	6 00
30 — —	1	899 00	903 70	4 70
1er Février —	6	900 00	903 75	3 75
		Moyenne, 899m 61	Moyenne, 903m 58	Moyenne, 3m 97

Si l'on prend la moyenne des résultats des deux opérateurs, lesquels diffèrent d'ailleurs très-peu les uns des autres, on verra que quarante pièces de cinq francs, essayées par l'ancien procédé, ont été trouvées au titre moyen de 899m 53; tandis que par le nouveau procédé leur titre s'est élevé à 903m 51. La différence est conséquemment de 3m 98. Les expériences de M. d'Arcet sur des alliages mathématiques à 900 millièmes, et celles répétées devant la commission, donnent 3m 92 pour la différence du titre accusé au titre réel; c'est-à-dire, sensiblement le même résultat que par la comparaison de l'ancien procédé au nouveau.

Rassemblons maintenant les faits qui se sont présentés à notre examen, et que nous pouvons regarder comme constans.

1°. Le mode d'essai, en usage dans le laboratoire des monnaies à Paris et chez les

(B.)
French Mint.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

essayeurs du bureau de garantie et du commerce, accuse de quelques millièmes trop bas le titre des matières d'argent.

2°. Dans le laboratoire des monnaies, l'argent fin ou peu allié ressort de l'essai à son véritable titre, ou à très-peu de chose près; tandis que l'argent à 900 millièmes, ne revient qu'au titre de 896m. Ainsi se trouve justifiée la réclamation des directeurs de monnaies à son excellence le ministre des finances.

3°. Nos essayeurs ne donnent pas le même titre au même alliage. La différence du titre accusé, au titre réel, s'élève pour quelques-uns, à 5 et 6 millièmes dans les mêmes circonstances où, pour d'autres, elle est de 1 à 2 millièmes seulement.

4°. La perte d'argent déguisée dans l'essai n'est point proportionnelle à la quantité d'argent contenue dans l'alliage. Elle est (tableau A), de 1m à 1m 3, pour l'argent de 1,000 á 950 millièmes; de 4m 3, terme moyen, pour l'argent de 900 à 400m; et remarquons qu'en prenant les essais faits sous les yeux de la commission (tableau E), on aurait des résultats un peu différens.

5°. Les essayeurs des principales monnaies de l'Europe accusent aussi trop bas le titre des matières d'argent. La différence du titre accusé, au titre réel, est même beaucoup plus grande qu'elle ne l'est en France, puisque pour l'alliage à 900 millièmes, elle est dans la monnaie de Madrid de 6m 3, et, dans celle de Naples, de 9 millièmes.—Tableau (D.)

6°. On ne peut regarder comme étant identiquement le même dans toute l'Europe un procédé qui, dans les mains les plus exercées, donne, pour le titre d'un même alliage, des différences aussi grandes et aussi discordantes que celles qui ont été signalées.

7°. Ces discordances ne sont pas inhérentes au mode d'essai lui-même; elles sont dues à la manière de les diriger de chaque essayeur, laquelle se règle d'après ses habitudes ou même son caprice.

8°. Le mode d'essai en usage peut être facilement amené à accuser constamment le véritable titre d'un alliage, soit en réglant convenablement les doses de plomb et la température, soit, mieux encore, par un système de compensation propre à chaque essayeur.

9°. Au moyen du procédé nouveau, par la voie humide, on peut obtenir immédiatement le vrai titre d'un alliage à 1/2 millième près.

10°. D'après le témoignage du nouveau procédé et la compensation établie pour l'ancien, on peut évaluer très-approximativement à 4 millièmes la quantité d'argent déguisée par le mode d'essai en usage dans l'alliage des monnaies à 900 millièmes.

A ces faits ajoutons quelques considérations sur les obligations imposées aux essayeurs.

Les lois qui ont fixé le titre de nos monnaies, de notre argenterie et de la bijouterie n'ont jamais admis que les essais de ces matières pouvaient ne pas être rigoureux, ne fixé les limites de leur incertitude. Comment, en effet, auraient-elles pu consacrer un principe aussi étrange et aussi contraire au but qu'elles se proposaient, la garantie des matières d'or et d'argent? Il est certain, au contraire, que l'essayeur a toujours été regardé comme responsable du titre qu'il accusait; qu'obligation lui est imposée d'accuser le véritable; que tout le monde le croit, et qu'il en a réellement les moyens. Si des réglemens ont prescrit certaines conditions, telles que la nature des coupelles, la dose de plomb convenable à chaque essai, ils ont gardé le silence sur les plus importantes peut-être, parce qu'ils n'ont pu les définir, et qu'ils les ont confiées à l'habileté et à la responsabilité des essayeurs. Ces réglemens d'ailleurs, dont le plus récent porte la date du 5 Décembre 1763, sont tous tombés en désuétude; chaque essayeur emploie des coupelles de son choix, la dose de plomb qu'il juge convenable; il dirige l'essai à son gré, et peut-être n'est-il pas deux essayeurs qui opèrent exactement dans les mêmes circonstances. Mais ce n'est pas là l'inconvénient: dès que la loi rend les essayeurs responsables du titre qu'ils accusent, elle doit les laisser libres de leurs moyens; et, en les obligeant à suivre ses prescriptions, elle en ferait des instrumens aveugles auxquels ne pourrait plus être imposée aucune espèce de responsabilité. Les instructions publiées par l'administration ne doivent donc avoir d'autre objet que d'éclairer les essayeurs, et elles resteront toujours officieuses.

Si maintenant il reste incontestable que la loi a toujours admis que l'essayeur accusait le véritable titre des matières d'argent, et qu'il en était responsable;

S'il est certain, par les faits qui ont été recueillis, que le mode d'essai en usage aujourd'hui est d'une capricieuse instabilité, puisqu'il change avec les personnes, les temps et les lieux;

S'il est également certain que le mode d'essai n'est en défaut que pour quelques alliages et ne l'est pas pour d'autres, que les différences des titres accusés, aux titres réels, sont moins grandes en France que dans la plupart des pays étrangers;

Si enfin on ne peut douter que les quantités variables d'argent déguisées par le mode d'essai actuel, sans importance tant qu'elles sont restées inconnues, n'en acquièrent une très-grande dès qu'elles seront connues;

On sera forcé de conclure qu'il est nécessaire de ramener au plus tôt l'art des essais d'argent à sa véritable destination; chose d'autant plus facile qu'on peut réellement considérer les différences des titres accusés, aux titres vrais, comme de simples aberrations, et qu'il suffira, pour les faire disparaître, de rappeler aux essayeurs l'obligation que la loi leur impose de titrer rigoureusement les matières d'argent.

Jusqu'à présent, la commission ne s'est occupée que de l'essai des matières d'argent; mais elle est aussi appelée à donner son opinion sur celui des matières d'or. Cette tâche sera bientôt remplie; car les changemens qu'elle a à proposer ne touchent point au procédé, et ne consistent, pour ainsi dire, qu'en un surcroit de précautions, reconnues comme nécessaires et employées dans le laboratoire des essais, pour titrer exactement un lingot d'or; mais le directeur des essais, M. d'Arcet, fidèle à son principe de conserver sans altération les modes d'essai qui lui ont été transmis, n'a pas cru devoir appliquer toutes ces précautions à la détermination du titre des monnaies d'or, avant d'en avoir obtenu l'autorisation.

On

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

On ne doit pas passer les essais d'or à une température trop élevée, car on a constaté qu'à la température de certains fourneaux à coupelle, il était possible de perdre un demi-millième sur le titre de l'or.

Depuis qu'on affine les matières d'or par l'acide sulphurique, et qu'on trouve dans le commerce de l'or à 1,000 millièmes, les essayeurs ont constaté, en en déterminant le titre par les moyens ordinaires, qu'ils obtenaient presque constamment 1,001, 1,002, et quelquefois 1,003 millièmes; aussi, depuis cette époque, ils sont dans l'usage de passer une seconde fois de l'acide à 32° sur cet or, et même sur celui à 990 millièmes, pour faire disparaître la surcharge. Cette précaution est également indispensable pour l'or plus allié, car des essais, faits dans le laboratoire de la commission des monnaies, ont donné, par le procédé ordinaire, un titre d'un demi-millième plus fort qu'en passant une seconde fois de l'acide à 32° sur le cornet, comme on le voit par le tableau suivant:

TABLEAU (I.)

Titres faits avec de l'Or à 1,000m.	Titres trouvés avec un Acide à 32°.	Titres trouvés avec Deux Acides à 32°.
950m	951m	950 ½m
925	925 ½	925
900	900 ½	900
850	850 ½	850

Lorsqu'on fait un essai d'or tenant argent, il est indispensable de faire deux essais; le premier, auquel on n'ajoute point d'argent, sert à établir la quantité d'or et d'argent réunis; le second, qu'on fait comme un essai ordinaire, donne la quantité d'or. Si, au lieu de deux essais, on n'en faisait qu'un, et qu'on passât deux fois à la coupelle le même bouton d'essai, on pourrait perdre de 1 à 3 millièmes d'or. Ces diverses précautions, amenées par l'expérience, donnent une plus grande exactitude à l'essai des matières d'or, et méritent d'être recommandées aux essayeurs; mais comme il n'existe aujourd'hui aucune instruction, sur l'art des essais, qui embrasse tous les progrès qu'il a faits depuis l'époque où Vauquelin a publié son Art de l'Essayeur, nous pensons que la commission des monnaies devrait être invitée, par s. exc. le ministre des finances, à publier une instruction sur les essais des matières d'or et d'argent, qui fût à la hauteur des connaissances actuelles, et qui renfermât tout ce qui est nécessaire à un essayeur pour le diriger sûrement dans ses opérations.

En faisant connaître les imperfections des procédés en usage, pour l'essai des matières d'or et d'argent, et les améliorations dont ils sont susceptibles, nous avons fait abstraction, dans cette première partie de notre rapport, de l'influence que les changemens que nous avons proposés pourraient avoir sur les intérêts commerciaux de la France, tant à l'intérieur qu'à l'extérieur. Cependant, quoique, sous le rapport chimique, nous ayons considéré les imperfections du mode d'essai comme de simples écarts très-faciles à corriger, il n'en est pas moins de fait, si ce mode était changé, qu'à l'avenir la plupart des matières d'argent, et particulièrement nos monnaies, seraient titrées de 3 à 4 millièmes plus bas qu'elles ne l'ont été jusqu'à présent; que ces dernières pourraient être considérées comme altérées, et qu'enfin l'équilibre de nos relations commerciales pourrait être aussi troublé. De pareilles questions, il faut l'avouer, ont une gravité imposante; elles on été prévues dans l'arrêté de s. exc. le ministre des finances, et nous devons mettre tous nos soins à les examiner.

Mais avant d'entrer dans cet examen, nous agiterons une question qui nous semble devoir dominer toutes les autres; c'est que l'incertitude du mode d'essai, pour les matières d'argent, étant avouée et déjà rendue presque populaire, un changement quelconque est devenu indispensable, et qu'il vaut mieux qu'il émane de l'autorité, que de laisser les spéculateurs, au gré de leurs intérêts, tantôt se prévaloir de cette incertitude, tantôt la repousser.

Le mode actuel de titrer les matières d'or et d'argent cesse d'être légitime dès qu'il est accusé et qu'il succombe. La loi n'a jamais dit en effet que le véritable mode d'essai serait celui de tel essayeur plutôt que de tel autre, parce qu'elle a constamment supposé qu'il n'y en avait qu'un seul, le vrai.

Si l'on devait conserver l'ancien procédé avec ses erreurs, il faudrait que la manière d'opérer des essayeurs de la commission des monnaies fût rendue obligatoire pour ceux des bureaux de garantie et du commerce, et qu'il fût ordonné, chose qui paraîtra tout-à-fait monstrueuse, que les alliages au titre de 1,000 à 950 millièmes seraient titrés sans perte, et que ceux de 900 à 500 millièmes le seraient avec une perte moyenne de 4 et 3 m.—Voir le tableau (A.)

Dans un système si peu naturel, une ordonnance royale ne suffirait pas pour donner force exécutive aux arrêts de la commission des monnaies, en matière de contestations de titre; il faudrait la volonté souveraine de la loi. S'ils l'ont eue, jusqu'à présent, cette force exécutive; si encore elle n'a pas été contestée, c'est parce que la loi admettait que la commission des monnaies dénonçait le véritable titre; mais s'il est démontré qu'elle l'accuse faussement, ses arrêts cessent d'être souverains.

Supposons une contestation s'élevant entre un essayeur qui aura accusé exactement le titre d'un lingot d'argent, et la commission des monnaies qui l'aura accusé faussement: pourrait-on douter de la décision des interprètes de la loi, quand on verrait, d'un côté, des dispositions législatives très-précises qui commandent, et de l'autre, de simples écarts de manipulations qui ne sont pas même constans, et qui varient, pour ainsi dire, d'un essayeur à l'autre? C'est en vain que l'on alléguerait l'habitude, qui finit par devenir législatrice; la

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

loi n'est déplacée par l'habitude, que parce que, faite pour une époque, elle n'a pu suivre la marche progressive de la société. Mais ici, rien de semblable : titrer faussement n'est pas avancer, et c'est alors à la loi à déplacer l'habitude. C'est donc une position des plus fausses que celle où l'on est maintenant, et l'on ne saurait trop se hâter d'en sortir. La Commission des Monnaies elle-même l'a bien senti. Dépositaire de la conservation du mode d'essai des matières d'argent, mais confidente de ses imperfections, elle en appelle à un nouvel examen, pressée par cette puissance irrésistible qui fait marcher les sociétés.

Après avoir établi que le mode d'essai des matières d'argent, actuellement en usage, ne peut être maintenu, nous examinerons si la diminution de quatre millièmes, qu'amènerait l'adoption du nouveau mode dans le titre de nos monnaies d'argent, est une véritable altération de titre, et si on ne doit pas la considérer plutôt comme une simple aberration des manipulations variables du procédé d'essai.

Une altération est un changement dans le titre légal des monnaies, fait par le Gouvernement. Or ici l'altération n'a jamais été avouée, ni même soupçonnée. La loi a toujours entendu, comme elle l'entend encore aujourd'hui, que le titre de nos monnaies d'argent était de 900 millièmes d'argent pur et de 100 millièmes de cuivre ; et si, par le fait, ce titre est de quatre millièmes plus élevé que le titre moyen 900 millièmes, qu'elle a fixé, c'est un résultat très-fâcheux sans doute, puisque ces quatre millièmes sont perdus sans fruit dans nos monnaies ; mais elle ne peut ni l'avoeur pour le passé, ni le tolérer pour l'avenir, dès que l'existence lui en est révélée. Faudra-t-il donc aujourd'hui regarder comme un juge infaillible un mode d'essai variant d'une main à l'autre, accusant faux le titre d'une monnaie d'argent, à Paris, de 4 millièmes ; à Madrid, de 6^m 3, et à Naples, de 9^m ? Devra-t-on ériger ses aberrations et ses caprices en véritables altérations de titre, quand il est d'ailleurs si facile de les déguiser ?

Notre monnaie d'argent, comme on sait, est fabriquée avec une tolérance de 3 millièmes en dedans et 3 millièmes en dehors. Supposons que, par le fait de la fabrication, le titre en soit de 897 millièmes ; on ne regardera certainement pas la monnaie comme altérée, puisque la différence de 3 millièmes, au titre droit de 900 millièmes, est accordée en tolérance, et l'on conviendra sans doute que, dans une monnaie frabriquée, pen importe que cette différence soit du fait de la fabrication ou de celui de l'essai. De là, on est amené à conclure que tout changement dans le mode d'essai, qui n'aurait d'autre résultat fâcheux que de baisser le titre de nos monnaies, de 3 millièmes, c'est-à-dire d'absorber toute la tolérance, n'en altérerait réellement pas le titre légal, et ne pourrait donner lieu à ces graves inconvéniens, que la crainte d'une altération nous fait grossir et redouter.

Tel est cependant le changement que nous avons proposé de faire au mode d'essai en usage, pour lui faire accuser exactement le titre des matières d'argent. En admettant que ce mode d'essai déguisât seulement 3 millièmes, au lieu de 4^m qu'il déguise réellement, les novelles monnaies, au titre mathématique de 900 millièmes, seraient encore dans les limites de la tolérance, et par conséquent légales. A la vérité, la quantité déguisée est de 4 millièmes, et non de 3 millièmes, comme nous venons de le supposer ; mais voudrait-on se retrancher derrière 1 millième, pour agiter une aussi grave question que celle d'une altération de titre ? Il ne tiendrait d'ailleurs qu'à l'administration de faire tenir le titre des monnaies de 1 millième au-dessus de 900 millièmès, pour couvrir toute la perte causée par le mode d'essai ; mais cette mesure ne nous paraît pas nécessaire, et nous ne la conseillerions pas.

La loi du 28 Thermidor an 3 avait accordé, pour le titre des monnaies d'argent, une tolérance de 7 millièmes en dedans et autant en dehors, laquelle a subsisté jusqu'à la loi du 7 Germinal an 11, qui l'a réduite à 3 millièmes. La différence des deux tolérances, prises dans le même sens, étant de 4 millièmes, la réduction a dû avoir pour résultat d'élever de cette quantité, ou à peu près, le titre de notre monnaie ; car, avec une aussi forte tolérance que celle de 7 millièmes, les directeurs pouvaient baisser les titres de leurs espèces, de 4 millièmes, sans avoir plus de chances de refonte qu'à présent. Cependant, la loi du 7 Germinal an 11 n'a pas voulu prévoir les conséquences de ce changement de tolérance, qui en amenait un, non dans le titre légal, mais dans le titre réel de nos monnaies, parce que sans doute elle n'y a vu aucun inconvénient.

Observons encore qu'à l'époque de la loi du 28 Thermidor an 3, qui a fixé à 900 millièmes le titre de nos monnaies, on ne savait pas affiner l'argent en grand comme aujourd'hui, et en retirer l'or qu'il renfermait. Désormais notre monnaie d'argent n'en contiendra plus, et aura par conséquent moins de valeur. La quantité d'or contenue dans les anciennes espèces est à-peu-près de $\frac{1}{2}$ millième, et équivaut presque à 8 millièmes d'argent. Pourquoi ne pas considérer aussi cette soustraction d'or comme un véritable changement de titre, et en prévenir toutes les conséquences fâcheuses, en faisant établir par la législation que nos monnaies d'argent continueront à contenir $\frac{1}{2}$ millième d'or, comme par le passé ?

Non, une telle prétention ne pourrait être admise. L'or contenu dans une pièce d'argent n'a pas de valeur réelle, tant qu'il ne peut être dégagé avec avantage de son alliage, et il est tout-à-fait indifférent pour celui qui reçoit la pièce d'argent, ou qui la donne, qu'elle contienne, ou non, un demi-millième d'or. Eh bien ! si le possesseur d'une monnaie d'argent ne peut se prévaloir de la petite quantité d'or qu'elle renferme, il ne pourra pas non plus se prévaloir de 3 à 4 millièmes d'argent en excès que contiendraient nos premières monnaies décimales par rapport aux nouvelles. Les monnaies, en effet, tant qu'elles sont en circulation, ont une valeur supérieure à celle des métaux précieux qu'elles renferment, de tous les frais de leur fabrication qui, aujourd'hui, s'élèvent à 15 millièmes. Peu importe dès lors, à celui qui en est porteur, et qui ne les tient que passagèrement dans ses mains pour les verser dans d'autres, que leur titre en soit de 3 à 4 millièmes plus fort ou

plus

plus faible que le titre droit de 900 millièmes fixé par la loi ; si surtout, comme c'est ici le cas, ce titre est, ou au moins à très-peu de chose près, dans les limites de la tolérance et par conséquent légal. Ce n'est qu'à l'époque où les monnaies seront considérées comme matières brutes d'argent, c'est-à-dire à celle de leur refonte, que l'on aura soin de séparer les pièces fortes des faibles. On fera ce que nos affineurs ont très bien su faire, depuis quelques années, pour nos monnaies duodécimales ; mais saurait-on voir là un grave inconvénient ?

Nous pourrions faire valoir encore que souvent on a fabriqué des pièces d'or contenant jusqu'à 80 millièmes d'argent ; mais nous nous arrêtons, croyant avoir suffisamment démontré que les 4 millièmes, dont les nouvelles monnaies seraient plus faibles que les anciennes, ne peuvent constituer une véritable altération de titre, et qu'on ne saurait donner ce nom à une différence pour ainsi dire insignifiante, dont la source est dans l'incertitude même du mode d'essai, qui se noie d'ailleurs dans la tolérance du titre des monnaies, et qui n'est amenée que par l'obligation qu'impose la loi de remplir ses volontés souveraines.

Cette conséquence importante établie, nous sommes conduits à une autre qui ne l'est pas moins ; c'est qu'il ne faut pas une loi pour autoriser l'amélioration de notre mode d'essai, et que cette loi serait même dangereuse.

Pourquoi une loi nouvelle pour déclarer que désormais les essais des matières d'argent seront rigoureux, quand celles qui existent n'ont jamais admis qu'ils ne l'étaient pas ? En accordant une tolérance d'abord de 7 millièmes, et ensuite de 3 millièmes seulement, elles ont en quelque sorte fixé la mesure des oscillations de titre que les monnaies pouvaient éprouver sans cesser d'être légales. Cette tolérance, il est vrai, a été accordée originairement pour les écarts de la fabrication ; mais il n'est d'aucun intérêt, dans une monnaie confectionée, qu'elle porte sur la fabrication ou sur l'essai.

Nous disons de plus que l'intervention de la loi serait dangereuse ; car on la forcerait à avouer, comme une véritable altération de titre, une aberration de l'ordre des tolérances qu'elle a successivement prescrites, et cet aveu aurait pour résultat d'ébranler la confiance, de faire d'un mal léger un mal très-grave, et de jeter le trouble entre le passé et l'avenir.

Maintenant que nous avons démontré qu'un changement quelconque, dans le mode d'essai actuel des matières d'argent, est devenu, par la publicité même des imperfections de ce mode, d'une indispensable nécessité, et que celui que nous avons proposé, de titrer rigoureusement les matières d'argent, conformément au vœu de la loi, ne saurait constituer une sérieuse altération de titre, nous rentrerons dans la question que nous avons posée plus haut, d'examiner l'influence qu'une oscillation de 3 à 4 millièmes, autour du titre moyen (900 millièmes) de nos monnaies, pourrait avoir sur les intérêts commerciaux de la France.

D'abord il est certain que la presque totalité de notre commerce avec l'étranger se règle en marchandises, et non en espèces. Le prix de ces marchandises (seule règle du profit et de la perte qu'on y fait) est déterminé par le prix courant du lieu du marché, aussi bien pour celles que nous vendons, que pour celles que nous achetons. Le degré de finesse de nos monnaies n'influe pas le moins du monde sur ce prix courant, d'où dépendent uniquement les profits et les pertes de nos négocians.

Le degré de finesse n'influe pas non plus sur les profits et les pertes que font les négocians, sur les marchandises de retour qu'ils importent en France, ni même sur les marchandises de notre fabrication qui se consomment chez nous. Si à la longue on s'aperçoit que notre monnaie contient 3 à 4 millièmes d'argent fin de moins qu'elle n'avait, il est possible qu'elle décline un peu en valeur, c'est-à-dire qu'il faille en donner un peu plus pour obtenir la même marchandise ; mais cette nécessité est, pour le consommateur, aussi bien que pour le marchand, et celui-ci n'a rien à perdre, du moment qu'il donne la monnaie sur le même pied qu'il l'a reçue.

Au surplus, l'inconvénient d'une baisse légère, dans la valeur propre de la monnaie, disparaît dans la pratique. Les variations, dans les valeurs propres des marchandises, sont en général beaucoup plus considérables que celles qui résulteraient des variations qui peuvent avoir lieu de nos jours dans le titre.

Reste l'inconvénient qui pourrait en résulter pour déterminer le pair du change.

On sait que le pair du change est le prix auquel deux sommes, échangées l'une contre l'autre, contiennent la même quantité d'argent fin ou d'or fin. Pour que les intérêts de ceux de nos négocians, qui font le commerce des espèces d'or et d'argent ne soient pas lésés, que faut-il ? Il faut qu'il ne soient pas exposés à donner une somme dans laquelle il y a une certaine quantité d'argent fin, contre une somme dans laquelle il y en aurait une moindre quantité. Or la certitude de recevoir une certaine quantité d'argent ne peut être acquise que par des expériences directes faites sur le degré de fin des monnaies étrangères. Nous savons ce qu'il y a de fin dans les nôtres ; c'est à nos commerçans en métaux précieux à calculer si le cours du change est tel, qu'une opération avec l'étranger fera entrer dans leurs mains une quantité de métal précieux supérieure ou inférieure à celle qu'elle en fera sortir. Le gouvernement peut les aider, en leur faisant connaître le vrai titre des monnaies étrangères ; mais nous ne pensons pas que les essais faits dans l'étranger doivent influer sur leurs opérations, ni qu'il faille se concerter pour cela avec les hôtels des monnaies du dehors.

Dans tous les cas, ce serait inutilement que nous voudrions tirer parti de ce concours. Les étrangers feraient leur profit des renseignemens qu'ils obtiendraient de nous, et ne feraient certainement rien de ce qui aurait pour objet de favoriser nos spéculations.

Ainsi marchons en avant, et n'hésitons pas à donner les premiers l'exemple d'une réforme utile. Fabriquons nos monnaies avec toute l'exactitude dont nous sommes capables, et laissons à nos négocians le soin d'en tirer le meilleur parti pour leurs intérêts. Si c'est un

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

avantage réel que de titrer exactement les matières d'argent, les étrangers nous imiteront sans doute; s'ils persistent dans leurs habitudes, la position de nos négocians n'en deviendra pas pire; car nous avons prouvé (tableau D.) que le mode d'essai n'est pas partout le même, et l'on convient que c'est en France que les essais sont le mieux faits; ce qui veut dire que c'est en France que la différence du titre réel, au titre accusé par l'essai, est la plus petite.

D'ailleurs nous rappellerons que l'essai ne fait pas éprouver aux matières d'argent une perte proportionnelle à la quantité de fin qu'elles contiennent, et que cette perte est presque nulle pour l'argent de 1,000 à 950 millièmes; en sorte que si le commerce des matières d'argent ne se faisait que sur des titres élevés, et c'est bien ainsi qu'il se fait déjà en grande partie, depuis les progès de l'art de l'affinage, l'adoption du nouveau mode d'essai changerait peu la position des négocians de matières d'argent.

Nous croyons inutile de donner plus d'étendue aux observations générales que nous venons de présenter. Elles nous paraissent suffire pour démontrer que le changement que nous avons proposé dans notre mode d'essai, afin de lui faire accuser à l'avenir le vrai titre des matières d'argent, n'est point accompagné d'inconvéniens assez graves, pour faire craindre des perturbations nuisibles aux intérêts commerciaux de la France, tant à l'extérieur qu'à l'intérieur. Le seul que nous puissions avouer, bien qu'il ne touche pas à nos intérêts commerciaux, serait la nécessité de modifier le tarif du 17 Prairial an XI. d'après de nouvelles expériences. Ce travail qu'il ne serait peut-être pas inutile de refaire, indépendamment de tout changement, serait un peu long; mais provisoirement on pourrait se borner à corriger, dans le tarif, le titre des espèces, proportionnellement à la perte que l'ancien procédé d'essai leur a fait éprouver.

En admettant qu'il soit nécessaire, ainsi que nous croyons l'avoir prouvé, de faire accuser au mode d'essai le vrai titre des matières d'or et d'argent, nous ne voyons aucun motif de différer plus long-temps de rappeler aux essayeurs l'obligation que leur en impose la loi. Cependant, la plupart étant trop peu instruits pour corriger d'eux-mêmes ce que leurs procédés peuvent avoir de défectueux, et remonter du titre accusé au titre réel, nous serions d'avis qu'avant la publication d'aucune mesure par l'autorité, son excellence le ministre des finances invitât la commission des monnaies à rédiger, dans le plus bref délai, une instruction complète sur l'essai des matières d'or et d'argent, dans laquelle seraient donnés tous les renseignemens nécessaires pour permettre à l'essayeur d'en déterminer le vrai titre, et pour le diriger dans toutes ses opérations.

D'après la manière dont nous avons envisagé les changemens de titre de nos monnaies, amenés par un mode plus exact d'en déterminer le titre, nous avons établi qu'il n'était pas nécessaire et qu'il serait même dangereux de recourir à la législation pour autorise ces changemens. Comme il ne s'agirait que de rappeler aux essayeurs l'obligation, qui leur est imposée par la loi, de titrer rigoureusement les matières d'or et d'argent, nous pensons qu'il suffirait pour cela d'une ordonnance royale, qui précéderait l'instruction sur l'art de l'essayeur, et qui pourrait être conçue en ces termes:

" Considérant:

" Que le mode d'essai des matières d'or et d'argent n'est pas uniforme parmi les essayeurs des monnaies et ceux des bureaux de garantie et du commerce, et que de ce défaut d'uniformité résultent des différences dans le titre qu'ils accusent d'une même matière;

" Que le mode d'essai généralement pratiqué donne des titres un peu trop faibles pour les matières d'argent et un peu trop forts pour les matières d'or;

" Que les lois et réglemens ont toujours entendu que le titre des matières d'or et d'argent serait déterminé par les essayeurs avec toute la rigueur que permettraient les procédés de l'art,

" Nous ordonnons, &c.

" Quel que soit le mode d'essai suivi par un essayeur pour titrer les matières d'or et d'argent, il est tenu, sous sa responsabilité, d'en accuser le véritable titre; c'est-à-dire qu'un alliage de 900 de métal fin par exemple et de 100 de cuivre doit revenir à l'essai au titre exact de 900 millièmes."

La solution que nous proposons de la question grave soumise à notre examen nous paraît la plus simple et la plus naturelle. Elle est fondée:

1°. Sur la volonté impérieuse de la loi, qui a toujours entendu que les matières d'or et d'argent seraient rigoureusement titrées;

2°. Sur l'impossibilité de laisser subsister le mode d'essai en usage, dès que ses imperfections sont dévoilées;

3°. Sur la considération que la différence des titres réels, aux titres accusés, n'est pas très-grande, et qu'elle peut être noyée, ou à fort peu de chose près, dans la tolérance;

4°. Que le passage, du titre accusé jusqu'à présent, au titre réel ne peut être considéré comme une véritable altération de titre, et ne peut en avoir les conséquences fâcheuses;

5°. Que nos relations commerciales ne sont point compromises par ce changement.

On peut donc, sans jeter l'alarme dans le public, sans mettre les cours étrangères en mouvement, sans occuper la législature, et sans mettre l'avenir aux prises avec le passé, opérer, au moyen d'une ordonnance, une amélioration, dans le mode d'essai des métaux précieux, rendue nécessaire par le progrès des arts et la force des circonstances.

On se rappelle que la question principale, qui a fait l'objet de ce rapport, a été soulevée par des réclamations des directeurs des monnaies, adressées à son excellence le ministre des finances, relativement à l'infidélité du mode d'essai suivi pour juger le titre des monnaies avant leur émission. Nous devons par conséquent examiner dans quelle position les place le mode proposé de titrer rigoureusement les matières d'argent.

Lorsqu'on présente au change d'une monnaie des matières d'argent en lingots ou en monnaies

monnaies étrangères, elles sont reçues d'après un titre fixé par l'essai, ou par le tarif du 17 Prairial, an XI: évaluées, suivant certaines règles en alliage monétaire, à 200 francs par kilogramme au titre de 900^{m}; c'est sur ce pied que le directeur les reçoit et qu'il les paie, en faisant une retenue de 3 francs par kilogramme pour frais de fabrication et pour déchets. Après leur conversion en espèces, le titre en est vérifié dans le laboratoire des essais, et la commission des monnaies compte avec lui de la manière suivante: si les espèces qu'il a fabriquées ressortent au titre droit de 900 millièmes auquel il est censé les avoir reçues, aucune répétition n'est exercée de part ni d'autre; si leur titre est inférieur, et à 898 millièmes par exemple, la commission lui réclame les 2 millièmes qu'il a reçus et qu'il a gardés; mais si le titre est supérieur de 3 millièmes, ou à 903 millièmes, elle lui tient compte de cet excès qu'il n'a pas reçu et que cependant il donne.

Rien n'est plus sage que cette disposition, et le directeur de monnaie ne saurait s'en plaindre. Ce dont il se plaint, c'est qu'il reçoit souvent de l'argent qui ne déchoit pas à l'essai par le mode usité, tandis que, le donnant converti en alliage monétaire, il déchoit de 4 millièmes qu'il est obligé de couvrir par un excès d'argent pareil. Cette perte pour les directeurs de monnaie est réelle, et n'a pu jamais être prévue ni compensée, puisqu'elle était tout-à-fait ignorée. S'ils ne s'en sont pas aperçus plutôt, la raison en est simple; ils ne composaient le plus souvent leur alliage monétaire qu'avec de l'alliage dont les titres étaient aussi jugés trop faibles, tandis que depuis quelques années, ils le composent très-fréquemment avec de l'argent fin.

En adoptant le parti de titrer à l'avenir rigoureusement toutes les matières d'argent, des plaintes de cette nature ne pourraient plus avoir lieu; et, s'il est vrai que dans l'état actuel des choses les directeurs chargés de cette perte font encore un juste bénéfice, les frais de fabrication des monnaies pourraient être réduits de 15 à 11 millièmes sans qu'ils eussent lieu de s'en plaindre, dès qu'ils n'auraient plus de perte à couvrir. Mais en faisant cette observation pour éclairer l'administration, nous ne pensons pas qu'on puisse y donner suite, avant un plus ample examen.

Nous ajouterons encore, dirigés par les mêmes motifs, que les monnaies duodécimales dont la refonte est ordonnée ont été titrées, par l'ancien mode d'essai, de 4 à 5 millièmes au-dessous de leur titre réel, c'est-à-dire à 907 millièmes au lieu de 911 ou 912^{m} qu'accuserait le nouveau. L'importance de la connaissance exacte de ce titre et la plus grande rigueur qu'on peut y mettre aujourd'hui détermineront sans doute son excellence le ministre des finances à ordonner un nouvel essai de ces espèces, devenu d'autant plus nécessaire, qu'une partie des pièces les plus fortes ayant été livrées à l'affinage, il serait possible que le titre moyen des espèces restantes ne fût plus exactement le même que celui déterminé il y a quelques années; il ne peut échapper qu'en réunissant à la prime donnée par les affineurs des monnaies duodécimales les 4 à 5 millièmes dont le nouveau mode d'essai augmente le titre des monnaies, et en réduisant les frais de fabrication, en raison de la perte de titre que les directeurs n'auraient plus à supporter, la refonte pourrait se faire sans dépense pour l'etat. C'est un objet qui mérite toute l'attention de l'administration; toutefois, quoique les avantages que nous venons de faire remarquer soient réels, nous ne devons pas nous en prévaloir pour fortifier l'opinion que nous avons émise. Elle nous paraît suffisamment démontrée par l'impossibilité de conserver le mode d'essai actuel; par la nécessité d'obéir à la loi, et de substituer un mode d'essai vrai à un mode trompeur, et enfin par l'avantage de rendre aux besoins de la société une masse considérable d'argent, qui reste perdue dans l'orfévrerie ou qui circule inactive dans les monnaies.

CONCLUSIONS.

D'après les faits qui ont été l'objet de notre examen et la discussion à laquelle ils ont donné lieu, nous croyons pouvoir établir les propositions suivantes:

1°. Le mode d'essai, pour les matières d'argent, actuellement en usage dans le laboratoire des monnaies à Paris, accuse généralement le titre de ces matières un peu trop bas. La différence du titre accusé, au titre réel, n'est point proportionnelle à la quantité du métal précieux contenu dans l'alliage; pour l'argent pur ou à 1000 millièmes, elle est nulle, ou au plus de 1 millième; elle va ensuite en croissant jusqu'aux alliages à 6 ou 500 millièmes, pour lesquels elle est d'environ 5 millièmes, et de là elle diminue jusqu'à l'alliage à 100 millièmes où elle est à peu-près nulle.

2°. Les différences des titres accusés, aux titres réels, ne sont pas à beaucoup près les mêmes, ni pour les essayeurs français, ni pour les essayeurs étrangers; elles varient avec le temps, les lieux et les personnes.

3°. Le mode d'essai suivi pour les matières d'or en accuse souvent le titre de 1/2 millième trop haut.

4°. Il est facile d'accuser vrai le titre d'une matière d'argent, soit par le procédé ancien de la coupellation, soit par le procédé nouveau de la voie humide.

5°. La loi ayant toujours admis que les titres des matières d'or et d'argent devaient être accusés rigoureusement, et ne pouvant admettre comme légal aucun mode d'essai particulier, pas plus celui du laboratoire des monnaies, que celui de quelqu' essayeur que ce soit, qu'autant qu'il accuse vrai, il est nécessaire de se hâter de se renfermer strictement dans l'esprit de la loi, et de prescrire à tous les essayeurs de remplir l'obligation qu'elle leur impose, d'accuser rigoureusement le titre d'un alliage, en prenant, sous leur responsabilité, tel moyen qu'ils jugeront convenable pour atteindre ce but.

6°. Une loi n'est pas nécessaire pour rappeler aux essayeurs l'obligation qui leur est imposée d'accuser le vrai titre des alliages qu'ils essaient; une ordonnance royale est suffisante.

(B.)
French Mint.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

7°. Il n'est pas nécessaire de se concerter avec les cours étrangères, et d'obtenir leur assentiment, pour changer le mode d'essai en usage, et l'amener à accuser le titre vrai des matières d'or et d'argent.

8°. Le changement proposé, d'accuser à l'avenir le titre réel des matières d'or et d'argent, ne saurait avoir aucun inconvénient pour les intérêts commerciaux de la France.

9°. D'après les principes énoncés, le tarif du 17 Prairial, an XI, devrait être revu et modifié.

10°. Enfin, les dispositions relatives au changement du mode d'essai seront mises en vigueur au moment où une instruction sur l'art des essais, publiée par la commission des monnaies, permettrait aux essayeurs de se conformer aux obligations qui leur sont imposées.

La commission a éprouvé le regret de ne pas se trouver unanime sur chacune des conclusions qu'on vient de rapporter. Chargée de la double mission de constater l'insuffisance du mode actuel d'essai, et d'apprécier les conséquences de l'adoption immediate d'un mode meilleur, elle a adhéré unanimement aux conclusions qui se rapportent au premier objet, mais relativement au second, les conclusions qui s'y rapportent n'ont obtenu qu'une majorité de cinq voix sur huit.

Les trois membres dissidens ont motivé leur opinion sur des considérations trop graves pour être omises dans ce rapport; en conséquence, il va en être rendu compte sommairement.

Ils n'ont point contesté que le nouveau mode d'essai ne fût plus conforme au texte de la loi qui veut que le titre du fin compris dans la monnaie soit exactement de 900 millièmes, et plus conforme à l'équité, qui exige que le véritable titre des métaux soit accusé par l'essai. Ces avantages leur eussent paru aussi déterminans qu'à leurs collègues, si la question avait pu être envisagée sous un point de vue purement rationel, et abstraction faite de deux antécédens qui la dominent; mais d'une part, tous les pays étrangers, qui ont des rapports commerciaux avec la France essaient leurs métaux et leurs monnaies d'après le mode actuel; d'un autre côté, il existe en France une masse de monnaies décimales qu'on évalue à deux milliards, et qui est titrée d'après ce même mode d'essai. L'adoption immédiate d'un autre mode produirait donc des perturbations tant à l'extérieur qu'à l'intérieur; on a combattu, il est vrai, la réalité ou l'intensité probables de ces perturbations; mais la minorité est restée convaincue de leur importance, et voici comment elle les a résumées:

Relativement à nos rapports commerciaux avec l'étranger, l'usage qu'on fait partout de l'essai à la coupelle constitue, a-t-elle dit, une équation de fait qui s'est établie entre les divers pays et la France, tant pour les quantités comparatives du fin qui existe dans les lingots et l'orfévrerie des pays respectifs, que pour la valeur comparée de leurs monnaies et le taux du change. Quant au commerce de métaux, si désormais nous essayons avec plus d'exactitude les lingots importés, nous y découvrirons une plus grande quantité de fin, c'est-à-dire que nous créerons à l'étranger un droit évident de nous les vendre plus cher, tandis qu'au contraire notre orfévrerie, vendue à l'étranger et contenant à l'avenir un peu moins de fin, y sera nécessairement dépréciée dans la proportion de 4 pour 1,000. A la vérité, comme elle contiendra en effet 4 millièmes d'argent de moins, nous n'y perdrons rien matériellement.

Quant aux monnaies étrangères comparées avec les nôtres, leurs valeurs ont été déterminées jusqu'ici par un tarif légal, en date du 17 Prairial, an 11. On convient qu'il faudrait annuler ce tarif et en refaire un autre. La majorité n'a pu se dissimuler les difficultés d'un travail aussi considérable, si on le faisait rigoureusement.

Enfin, quant au change avec les autres pays, tout le monde sait que le change s'établit sur la prévoyance qu'on recevra, en paiement d'un effet de crédit sur telle place, telle quantité de monnaie que l'on sait devoir contenir tel degré de fin. Si donc notre monnaie contient dorénavant 4 millièmes de fin en moins, vraisemblablement l'étranger, qui prendra du papier sur la France, tiendra compte de cette moins value: en d'autres termes, le change sur la France baissera de 4 à 5 pour 1,000, ou environ d'un demi pour 100. Cette perte serait d'autant plus fâcheuse pour le commerce français, que la traite qui aurait subi cette dépréciation par la juste crainte de l'étranger, pourrait, en définitive, être soldée, pour tout ou partie, en anciennes monnaies à 904 millièmes, puisque celles-ci circuleraient concurremment avec la nouvelle.

Ces objections, concernant nos rapports extérieurs, ont conduit la minorité à tirer une conclusion, en quelque sorte préjudicielle, sur l'adoption d'un nouveau mode d'essai. Elle a jugé qu'il faudrait se concerter préalablement avec les principaux états de l'Europe, pour y faire adopter ce mode d'un commun accord, ce qui serait un moyen certain et peut-être facile (comme l'avait pensé M. d'Arcet) de faire disparaître tous les inconvéniens attachés à la différence du système d'essai entre les pays respectifs.

Passant aux effets que le nouveau mode d'essai pourrait avoir sur nos affaires intérieures, la minorité a cru y voir des conséquences non moins fâcheuses et plus compliquées.

1°. La nouvelle monnaie d'argent serait inférieure en titre à celle fabriquée avant 1830; le public saurait que, déjà dépouillée de quelques parties d'or, jusqu'à concurrence de 6 francs par 1,000 francs, elle le serait encore de 4 francs par 1,000 francs au moyen d'un autre système d'essai; les esprits seraient infailliblement frappés du concours de ces deux dépréciations, encore que la première soit indifférente par elle-même. Dès-lors, cessation de la précieuse uniformité de confiance qui existe pour toutes nos monnaies circulantes; discrédit comparatif des nouvelles pièces, et recherches minutieuses des anciennes, dans les moindres transactions de la vie privée; agiotage inévitablement introduit au travers de ces transactions; enfin resserrement et thésaurisation probable, dans les campagnes, de la monnaie décimale antérieure à 1830.

2°. La

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

2°. La nouvelle monnaie, étant connue pour contenir 4 francs par 1000 francs d'argent fin en moins, occasionnerait probablement, dans le prix de toutes les marchandises, une élevation correspondante, c'est-à-dire d'environ 1/2 p. 0/0; élevation qui, sans profit pour les vendeurs, grèverait les acheteurs en pure perte.

3°. Il y aurait réduction de 1/2 p. 0/0 à peu près sur tous les revenus, dont le quantum est fixé d'avance, et l'a été avant l'émission de la nouvelle monnaie: tels sont les intérêts de capitaux, les locations, les traitemens.

4°. Des difficultés et des procès s'élèveraient relativement à l'exécution des contrats de vente ou de prêt d'une date antérieure. Ces contrats, en effet, bien que stipulant des capitaux réalisables en monnaie au titre actuel, se trouveraient dans le cas d'être soldés en monnaies dépréciées de 4 fr. par 1,000 francs.

Ces résultats, au moins probables, de l'application qu'on ferait du nouveau mode d'essai, aux monnaies qui seront frappées par suite de la loi du 14 Juin 1829, ont fait penser à la minorité de la commission, que les avantages non contestés d'un essai aussi exact sur un essai qui ne l'est pas étaient néanmoins trop faibles pour compenser les inconvéniens graves qui pourraient résulter de son application immédiate, obligatoire et exclusive à la France.

La même minorité a émis subsidiairement l'opinion que, si l'on adoptait le nouveau mode d'essai, contrairement à son avis, il serait du moins nécessaire de s'appuyer d'une nouvelle disposition législative. Vainement a-t-on dit qu'il ne s'agira que de faire exécuter plus fidèlement la loi existante, qui veut que notre monnaie contienne 900 millièmes de fin et non pas 904 mill. Le public est en possession depuis long-temps d'une monnaie qui contient 4 francs par 1,000 audelà du fin exigé par la loi. Cette possession est sinon un droit, du moins un fait général, auquel se lient toutes les transactions qui ont été passées en France pendant qu'il existait. On ne peut pas nier l'influence qu'aurait, dans un tel état de choses, l'introduction soudaine d'une monnaie dépouillée de cette exubérance de fin. Il serait donc imprudent de créer ainsi un germe de contestations entre les citoyens, sans se donner au moins l'appui d'une loi nouvelle pour les prévenir ou les régler.

Le Rapporteur,
(signé) *Gay-Lussac.*

Paris, le 1er Mars 1830.

EXTRAIT du Registrie des Délibérations de la Commission des Monnaies.

Séance du 8 Avril 1830.

M. D'ARCET, directeur des essais, présent à cette séance avec voix délibérative.

Après avoir lu attentivement le rapport de la commission spéciale, la commission des monnaies a pensé qu'il convenait d'examiner et de discuter séparément les différentes propositions établies par la majorité de la commission spéciale et résumées en dix paragraphes, sous le titre de Conclusions, à la fin du rapport de M. Gay-Lussac.

Les paragraphes 1, 2, 3, 4, 5 et 6, n'ont donné lieu à aucune observation qu'il soit nécessaire de rapporter.

A l'occasion du paragraphe 7 ainsi conçu:

"Il n'est pas nécessaire de se concerter avec les cours étrangères et d'obtenir leur assentiment, pour changer le mode d'essai en usage et l'amener à accuser le titre vrai des matières d'or et d'argent."

Il a été donné connaissance à la commission d'une lettre de M. Bingley, essayeur général de la monnaie de Londres, transmise par M. le baron Séguier, consul de Sa Majesté, de laquelle (rapprochée de sa précédente correspondance) il résulte qu'à la monnaie de Londres on a toujours cherché à accuser le titre réel des espèces et des matières;

Qu'ayant reconnu depuis long-temps l'inexactitude des essais d'argent par la coupelle, l'essayeur général à Londres appliquait au résultat de ces essais une échelle de compensation qui restituait aux matières essayées le fin qu'elles avaient perdu par la coupellation;

Que cette échelle ayant été reconnue fausse, parce qu'elle reposait sur un alliage mal composé, il avait été jugé nécessaire de former un nouvel alliage mathématique (standard) pour servir de base à une échelle plus exacte;

Que ce nouvel alliage, contre-essayé au laboratoire des essais, à Paris, à la prière de M. Bingley, venait d'être adopté à la monnaie de Londres; qu'il allait servir de base à une nouvelle échelle de compensation et à une rectification des titres jusqu'alors assignés aux monnaies françaises, qui seraient bonifiées de tout ce que l'échelle de compensation ancienne leur avait fait perdre.

La commission des monnaies a dû considérer dès-lors qu'une telle autorité, indépendamment des motifs énoncés au rapport de M. Gay-Lussac, rendait inutile, pour rentrer dans le vrai, le concours préalable des principales puissances de l'Europe; mais elle a pensé qu'il convenait de leur donner connaissance immédiatement de tout ce que le gouvernement français aurait arrêté à cet égard.

§ 8. "Le changement proposé d'accuser à l'avenir le titre réel des matières d'or et d'argent ne saurait avoir aucun inconvénient pour les intérêts commerciaux de la France."

Ce paragraphe, duquel il résulte que l'on peut désormais accuser le titre réel des espèces et matières, sans nuire aux intérêts commerciaux de la France, a été l'objet d'un sérieux examen.

La commission des monnaies, après avoir lu attentivement l'avis de la minorité de la commission spéciale, s'est rangée à l'avis de la majorité et par les mêmes motifs qui ont déterminé cette majorité.

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

Elle croit toutefois devoir faire remarquer que, depuis environ dix années, les fabrications d'argent, qui sont faites avec des lingots d'affinage, ne contiennent plus d'or, et que cependant on n'a pas observé que ces dernières fabrications éprouvassent quelque défaveur par leur comparaison avec les fabrications faites antérieurement, qui contenaient plus de trois quarts de millièmes d'or, équivalant à plus de 12 millièmes d'argent.

Il n'est donc pas à craindre qu'une différence de 4 millièmes en moins, dans nos monnaies nouvelles, les déprécie; il n'est pas à craindre non plus que cette différence provoque la refonte ou la thésaurisation des anciennes espèces; cette différence, qui équivaut à 88 centimes, par kilogramme valant 200 francs, est loin d'indemniser des frais de fabrication, qui sont de 3 francs, en cas de refonte, et n'est pas assez forte pour déterminer une plus grande thésaurisation.

§ 9. "D'après les principes énoncés, le tarif du 17 Prairial, an 11, devrait être revu et modifié."

La commission des monnaies reconnaît, comme la commission spéciale, qu'une réforme du tarif du 17 Prairial, an 11, sera nécessaire.

Mais elle croit urgent d'établir une distinction qui consiste à indiquer, dès à présent, les accroissemens de titre que la voie humide assignera aux espèces et ouvrages d'argent désignés à ce tarif; autrement, les directeurs des monnaies bénéficieraient de ce que toutes lesdites espèces et lesdits ouvrages ont perdu par les essais à la coupelle, d'après lesquels les titres portés au tarif ont été fixés.

Ce travail peut être facilement et promptement exécuté par les soins de M. le directeur des essais sur des alliages mathématiques, puisqu'il ne s'agit d'opérer que sur moins de quarante dénominations.

Le titre des espèces étrangères et vaisselles désignées au tarif serait ultérieurement rectifié définitivement, lorsqu'il aurait été possible d'opérer sur des masses assez considérables pour en connaître le titre moyen.

Il est bien entendu que cette échelle de compensation ne s'appliquerait qu'aux matières d'argent, le mode actuel suivi pour les essais d'or pouvant donner des résultats mathématiques.

§ 10. "Enfin, les dispositions relatives au changement du mode d'essai seront mises en vigueur, au moment où une instruction sur l'art des essais, publiée par la commission des monnaies, permettrait aux essayeurs de se conformer aux obligations qui leur sont imposées."

Discutant ce dixième paragraphe, la commission des monnaies a pensé, ainsi que la commission spéciale, qu'une instruction était nécessaire; mais il a été observé qu'il s'agissait ici d'un ouvrage important qui demandait beaucoup de temps et de soins, et qu'il y aurait de l'inconvénient à suspendre trop long-temps une rectification dans notre mode d'essai, que le parti pris à Londres ne permet peut-être plus de trop différer.

La commission des monnaies a, en conséquence, été d'avis qu'il suffisait que l'ordonnance royale annonçât qu'il serait publié une description des modes d'essais qui seraient employés et un tarif rectifié comme il vient d'être dit ci-dessus.

La commission a aussi pensé qu'il convenait de charger MM. d'Arcet et Gay-Lussac de ce travail, et de les charger également de rédiger un noveau Manuel de l'Essayeur dans le plus court délai possible.

Il résulte des opinions ci-dessus émises, que la commission des monnaies partage l'avis de la majorité de la commission spéciale.

Il lui paraît difficile de rester dans l'état actuel; car maintenant qu'il est généralement connu qu'on n'accuse pas le vrai titre, la commission se trouverait dans une position fausse, si elle était chargée par les tribunaux de vérifier des lingots, ou si les titres qu'elle aurait accusés étaient déférés, aux tribunaux, comme inexacts.

Il est encore un motif puissant qui doit déterminer à adopter l'avis de la majorité de la commission spéciale; c'est qu'il est favorable au propriétaire de matières et espèces, puisqu'il augmente le fin de la valeur qu'il possède.

Le Gouvernement français lui-même y trouve un grand intérêt; car il gagne 4 millièmes sur les écus qui seront portés à 911 au lieu de 907. Quatre millièmes représentent une valeur de 88 centimes, ce qui, en supposant 600 millions à refondre, donne une économie de 2,640,000 francs.

Une délibération spéciale de la commission des monnaies sera présentée sur cet objet, qu'il convient seulement d'indiquer ici.

La commission se hâte cependant de remarquer qu'elle n'aurait pas balancé à sacrifier cet avantage, s'il eût fallu l'obtenir en favorisant le débiteur au détriment du créancier.

La loi du 7 Germinal, an 11, porte: "Cinq grammes d'argent au titre de 9/10 de fin constituent l'unité monétaire, qui conserve le nom de franc."

Ainsi le créancier ne peut exiger du débiteur, pour chaque franc qu'il prête, que 4 grammes 500 milligrammes d'argent fin, ou 900 gr. par kilogramme pour 200 francs. Jusqu'à présent, par l'effet d'une erreur, il a reçu 904 de fin; il ne recevra plus désormais que 900 gr.; il cessera de gagner les 4 grammes qui ne lui étaient pas dus; mais il les retrouvera en cas de refonte, comme le Gouvernement doit retrouver, dans les écus de 6 livres, le fin qu'ils contenaient de trop. Ce bénéfice, pourrait-on observer, ne coûtait rien au débiteur; la remarque est juste: c'est le propriétaire de la mine qui, dès l'origine, a subi la perte; mais ce propriétaire, éclairé par la publicité de nos discussions et par le parti que va prendre l'Angleterre, fera désormais titrer mathématiquement ses lingots; si alors on persistait à essayer les fabrications selon le mode actuel, il faudrait y ajouter 4 millièmes de fin, qui seraient en pure perte pour le Gouvernement.

D'après

D'après ces différentes considérations, la commission des monnaies a pris l'arrêté suivant:

Article 1er. Son excellence le ministre secrétaire d'état des finances sera prié de présenter à Sa Majesté le projet d'ordonnance annexé à la présente délibération.

Art. 2. MM. d'Arcet et Gay-Lussac seront invités à se concerter, pour la rédaction d'une instruction, ayant pour objet de faire connaître les procédés qui seront suivis au laboratoire des essais de la commission, tant pour les essais à la coupelle que pour les essais par la voie humide.

Art. 3. Il sera formé le plus tôt possible, par les soins de M. d'Arcet, directeur des essais, une échelle de compensation qui indiquera, pour toutes les espèces et ouvrages d'argent désignés au tarif du 17 Prairial, an 11, et pour les mêmes espèces et matières légalement essayées depuis la publication de ce tarif, les différences en plus que doit présenter l'essai par la voie humide sur les titres indiqués, qui ont été constatés par l'essai à la coupelle.

Art. 4. MM. d'Arcet et Gay-Lussac seront invités à s'occuper de la rédaction d'un nouveau "Manuel de l'Art de l'Essayeur," qui sera publié après avoir été soumis à l'approbation de S. Exc. le Ministre secrétaire d'état des finances.

Art. 5. La présente délibération sera adressée à S. Exc. le Ministre secrétaire d'état des finances, avec invitation de statuer le plus tôt qu'il sera possible sur les propositions qu'elle contient.

Fait et délibéré en conseil.

Paris, le 8 Avril 1830.

(signé) Cte. de *Sussy*, Pair de France, Président,
Lambert et *Brunet*, Commissaires-généraux, et
D'Arcet, Directeur des Essais.

EXTRAIT du Registre des Délibérations de la Commission des Monnaies.

Séance du 9 Avril 1830.

La commission reconnaît que, d'après sa délibération du 8 de ce mois, relative à la nécessité d'accuser, au laboratoire des essais, le titre véritable des espèces et matières essayées, il y a lieu de s'occuper de la fixation du titre auquel les directeurs doivent compter désormais des espèces duodécimales qui sont refondues, aux termes de la loi du 14 Juin 1829.

Il est rappelé à ce sujet, que la commission spéciale, chargée par son excellence d'examiner les réclamations sur le mode actuel d'essai, avait desiré que des expériences nouvelles fussent faites pour constater, par la voie humide, le titre réel des espèces duodécimales soumises à l'affinage.

M. d'Arcet, directeur des essais, présent à la séance, et ayant voix délibérative, fait connaître le résultat de ces expériences, et émet l'opinion suivante:

"L'expérience a prouvé que les vieilles espèces duodécimales d'argent fondues, et qui ont été essayées au laboratoire par la voie humide, étaient au titre de 912 millièmes. Je crois donc que l'on pourrait livrer ces vieilles espèces d'argent à ce titre aux directeurs des monnaies; mais, considérant,

"1°. Qu'on ne compense que par 4 millièmes, au lieu de 5, la perte d'argent que la coupellation occasionne aux essais des délivrances, il est juste de ne livrer les vieilles espèces d'argent qu'au titre moyen de 911 millièmes; car, sans cela, on ferait perdre aux Directeurs le millième qu'on leur aurait fait payer, et qu'on ne leur rendrait pas;

"2°. Que, dans tout marché entre un particulier et le Gouvernement, s'il y a doute sur la limite à établir pour les intérêts respectifs, il me semble que ce sont ceux des particuliers qui doivent être le plus ménagés;

"Je suis d'avis qu'on livre les espèces duodécimales d'argent de 6 livres, 3 livres, 24, 12 et 6 sous, aux directeurs des monnaies, au titre moyen de 911 millièmes; mais avec la condition expresse qu'ils seront tenus de les recevoir toutes à ce titre, sans aucune contestation, jusqu'à la fin de la refonte."

La commission des monnaies partage cette opinion, sur les considérations énoncées ci-dessus et sur celles ci-après:

Que les espèces trouvées, par la coupellation, au titre de 908 millièmes, n'ont été comptées aux directeurs qu'au titre de 907;

Que les vieilles espèces d'argent, qui ont été fondues et essayées, peuvent ne pas représenter exactement le titre de la masse qui en reste en circulation, par la raison que leur titre varie en plus ou en moins, suivant la nature des pièces et les années de fabrication;

Qu'il y a des chances pour que ce titre diminue d'ici à la fin de la refonte, parce que le commerce retire de la circulation et fait tous les jours affiner les écus les plus élevés de titre;

Qu'il est avantageux pour le Gouvernement d'éviter par la suite toute réclamation, attendu que ces réclamations entraveraient la refonte, et pourraient donner lieu à des changemens continuels de tarif.

La discussion ouverte sur le mode qui devait être suivi pour l'admission de cette nouvelle fixation de titre, il a été observé que la loi du 14 Juin 1829 avait fixé à 907 millièmes le titre auquel les espèces duodécimales d'argent devaient être reçues aux changes des hôtels des monnaies; mais qu'on ne devait pas en induire qu'une loi fût nécessaire pour autoriser l'admission de ces mêmes espèces au titre de 911 millièmes. On conçoit en effet que s'il s'agissait ou d'accroître les dépenses de l'état ou de diminuer les avantages que la loi accorde aux particuliers, une disposition législative serait indispensable.

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

Mais il n'en est pas ainsi : les particuliers recevront, pour les écus rognés qu'ils verseront au titre de 911 millièmes, 88 centimes de plus par kilogramme, que si ces versemens étaient réglés sur le pied de 907 millièmes. Ils ne s'en plaindront certainement pas. D'un autre côté, le Gouvernement n'aura rien à payer pour cet excédant de 88 centimes par kilogramme, puisque les directeurs des monnaies, adjudicataires de l'affinage, sont obligés de lui tenir compte, sur le même pied de 911 millièmes, de toutes les espèces duodécimales qui sont versées aux changes.

Il ne s'agit donc ici que d'une simple équation, qui ne rend pas le concours du législateur nécessaire.

A l'égard des espèces intactes, elles sont admises dans les caisses publiques pour toute leur valeur nominale. L'augmentation de titre qui leur est accordée est loin de compenser la perte que ces espèces éprouveraient, à raison du faiblage et des frais de fabrication, si elles étaient considérées comme lingots.

EXEMPLE :

L'écu de 6 livres a cours pour - - - - - - - -	5f	80c
Considéré comme lingot, il perd, terme moyen,		
Frais de fabrication - - - - - - - - 08c	0	10
Faiblage - - - - - - - - - 02		
Reste - - -	5	70
Le bénéfice résultant de l'accroissement du titre de 4 millièmes équivaut à - - - - - - - - - - -	0	03
Total - - -	5	73

Certes, aucun porteur ne préférera 5 francs 73 centimes à 5 francs 80 centimes ; il n'est donc pas à craindre que le porteur élève des réclamations. Quant au Gouvernement, il est évident qu'il gagne la valeur de 4 millièmes de fin, par kilogramme d'espèces d'argent qu'il est tenu d'admettre dans les caisses pour leur valeur nominale, quand elles ne sont ni rognées ni altérées.

Cette différence de 4 millièmes atténuera les frais de la refonte (en supposant la masse d'espèces en circulation de 600 millions) de 2,640,000 francs.

Le Gouvernement doit-il attendre, pour entrer en jouissance de ce bénéfice, qu'une loi spéciale l'ait sanctionné, quand, par la force des choses, il peut éprouver des pertes journalières par la mise en activité successive des affinages dans les départemens ; quand enfin il ne s'agit que de la déclaration de faits résultant de calculs matériels, sur lesquels la discussion ne peut avoir aucune influence ?

Une grande publicité est nécessaire, et, sous ce rapport seul, une ordonnance royale doit intervenir.

D'après ces considérations, la commission arrête que S. Exc. le Ministre secrétaire d'état des finances sera prié de présenter à Sa Majesté le projet d'ordonnance annexé à la présente délibération.

Fait et délibéré en conseil.

(signé) C^te. *de Sussy*, Pair de France, President ;
Lambert et *Brunet*, Commissaires Généraux, et
D'Arcet, Directeur des Essais.

EXTRAIT des Procès-verbaux des Sèances des 1^er et 8 Mai 1830, du Bureau de Commerce et des Colonies.

Séance du 1^er Mai.

S. Exc. le Ministre des finances a desiré connaître l'opinion du bureau de commerce, sur une question qui touche aux bases mêmes de notre système monétaire, et qui, sous ce rapport, lui a paru mériter toute la sollicitude du Gouvernement. L'unité monétaire, désignée sous le nom de franc, doit contenir, aux termes de la loi du 7 Germinal, an XI, 5 grammes d'argent au titre de 9/10 de fin ; et ce n'est qu'après que ce titre a été reconnu par l'administration, que les espèces d'argent fabriquées par les directeurs des monnaies peuvent être mises dans la circulation. Or, l'opération au moyen de laquelle s'effectue cette vérification a encouru le reproche d'accuser 4 millièmes de fin de moins que n'en contient effectivement l'espèce soumise à son action : d'où la conséquence que, pour produire des pièces qui donnent à l'essai 900 millièmes d'argent, les directeurs des monnaies sont forcés d'en employer 904 millièmes, ce qui les constitue en perte de 4 millièmes. La question soulevée par ces réclamations a paru intéresser, non-seulement les directeurs des monnaies, mais encore l'état lui-même, en ce sens que, s'il était reconnu qu'en effet notre monnaie actuelle contient plus de métal fin que n'en exige son titre légal, une portion de richesses considérable se trouverait en quelque sorte enfouie, c'est-à-dire retirée de la circulation, sans profit pour personne. Le ministre des finances a donc pensé que rien ne devait être négligé pour obtenir la solution de ces difficultés, et une commission spéciale a été chargée de rechercher si le mode d'essai actuellement en vigueur, à l'hôtel des monnaies de Paris, offre réellement des élémens d'inexactitude, et, dans ce cas, quels procédés meilleurs lui pourraient être substitués. Cette commission, composée de quatre membres de l'Académie des Sciences, de deux membres du conseil d'état, d'un savant économiste et d'un des banquiers

banquiers les plus considérables de la capitale, a unanimement reconnu la défectuosité de l'opération actuelle, et la possibilité d'obtenir, par d'autres combinaisons chimiques, toutes les garanties d'exactitude que comporte la matière. Mais elle s'est trouvée partagée relativement aux conséquences que cette modification de l'essai pourrait avoir pour nos intérêts commerciaux. Trois membres ont exprimé l'opinion que le changement du mode d'essai, bien qu'il dût laisser subsister la proportion d'alliage déterminée par la loi, aurait cependant ce résultat que les pièces qui se fabriqueraient à l'avenir auraient intrinséquement moins de valeur que celles qui se trouvent aujourd'hui en circulation, et que cette différence pourrait, bien plus encore par son action morale que par son action matérielle, produire de fâcheuses perturbations, tant sur le marché intérieur que dans le cours de notre change avec l'étranger. Les cinq autres membres, dont l'avis a été depuis partagé par la commission des monnaies, ont pensé, au contraire, que la différence qui pourra exister entre les deux monnaies sera, dans tous les cas, trop insignifiante pour qu'il en soit tenu compte dans les transactions commerciales, et qu'ainsi les avantages, qu'on doit se promettre de l'amélioration du mode d'essai, ne seraient compensés par aucun dommage. Le bureau de commerce n'hésite pas à reconnaître que ce dernier point de vue sous lequel la question a été envisagée est le seul qui doive en ce moment fixer son attention. La profonde élaboration que la partie chimique de cette affaire a reçue dans le sein de la commission spéciale et de l'administration des monnaies, ne doit en effet laisser subsister aucun doute sur l'utilité et la possibilité du changement qu'on propose dans le mode d'essai. Mais l'appréciation des conséquences qu'entraînera l'intervention d'une monnaie nouvelle dont le titre effectif sera inférieur à celui de la monnaie en circulation, paraît présenter beaucoup de difficultés. La discussion s'engage sur chacun des inconvéniens signalés par la minorité, et les nombreux argumens dont elle s'est appuyée sont successivement mis en présence de ceux sur lesquels se fonde la sécurité des autres membres. L'opinion qui paraît prévaloir dans le bureau est que la mesure, bien qu'inoffensive en elle-même, pourrait être fâcheusement interprêtée par la malveillance, et qu'afin d'obtenir tous les avantages qu'on s'en promet, sans s'exposer aux embarras d'une complète publicité, il serait bien qu'on pût la réaliser par un simple réglement administratif. Mais, avant de s'arrêter à cette solution, le bureau aurait besoin de savoir jusqu'à quel point elle peut se concilier avec la législation qui régit la matière, et il demeure entendu que des informations sur ce point seront prochainement recueillies par les soins du président. La délibération est en conséquence ajournée à la séance du 8 Mai.

Séance du 8 Mai.

Le bureau reprend l'examen des difficultés qu'a soulevées la proposition d'établir un nouveau mode d'essai pour les matières et espèces d'argent. S. E. le président fait d'abord connaître que, d'après les explications qui ont été recueillies auprès de l'administration des monnaies, il ne paraît pas qu'on puisse donner suite à la pensée de réaliser cette modification par un simple réglement administratif; une décision ministérielle serait sans doute compétente pour introduire dans l'hôtel des monnaies de Paris l'emploi des moyens chimiques indiqués par la commission spéciale; mais l'adoption de ces nouveaux procédés par les essayeurs du Gouvernement aura, à l'égard des tiers, certaines suites qui réclameront l'intervention de l'ordonnance royale; telle est l'obligation à imposer aux essayeurs du commerce d'accuser le véritable titre des matières qui leur sont soumises; telle est encore la promulgation d'un tarif destiné à mettre en harmonie, avec le nouvel état de choses, le prix des matières et espèces comprises au tarif du 17 Prairial, an 11. Or la publicité que devraient recevoir ces mesures rendrait absolument sans objet la réserve dont on userait dans la prescription du changement de méthode, et il est dès-lors convenable que le même acte, qui devra consacrer les conséquences de ce changement, en établisse en même temps le principe. La nécessité de procéder par voie d'ordonnance étant ainsi reconnue, le bureau porte de nouveau toute son attention sur l'objet des préoccupations manifestées par la minorité de la commission spéciale, c'est-à-dire sur le dommage que peut produire, pour nos transactions intérieures et extérieures, la moins-value de 4 millièmes que les espèces fabriquées à l'avenir présenteront relativement à celles qui, jusqu'à ce jour, ont été versées dans la circulation. L'intervalle des deux séances a été mis à profit pour recevoir de nouvelles lumières sur cette partie tout-à-fait fondamentale de la question; les inconvéniens que l'on a signalés ne pouvant provenir pour la plupart que de l'influence morale que la disposition projetée exercerait sur le marché, il a paru sage d'interroger l'opinion de personnes engagées à-la-fois dans les opérations du change et dans le trafic des métaux précieux. Or il a été généralement répondu que, sous l'un et l'autre point de vue, aucune perturbation n'est à redouter. Il ne saurait en effet y avoir rien de sérieux à l'intérieur dans la différence de valeur que présenteront les deux monnaies, que dans le cas où cette différence serait assez forte pour couvrir les frais de la refonte et pour laisser un bénéfice au spéculateur. Mais il n'en est pas ainsi à beaucoup près, puisque la fabrication, en cas de refonte, ne peut coûter moins de 3 francs par kilogramme, et que les 4 millièmes de moins-value qu'offriront les nouvelles espèces ne représentent pas plus de 88 centimes pour le même poids. Quant à la dépréciation probable de notre change avec le dehors, on ne peut se dissimuler qu'elle doit ressortir en quelque sorte théoriquement de la baisse effective du titre actuel de nos espèces, et de l'intérêt que les étrangers auront à ne pas distinguer les pièces qui circulent aujourd'hui des pièces nouvelles qui auront éprouvé cette baisse. Mais il faut bien se dire aussi que l'étendue d'un tel préjudice ne saurait qu'être proportionné à l'intensité de la cause qui le produit; et il est reconnu que, dans la pratique, une différence de 4 millièmes est une différence tout-à-fait insignifiante; à quoi il est bon d'ajouter que, tous les états ne devant pas tarder, ainsi que l'Angleterre leur en donne déjà l'exemple, à s'approprier les moyens de rectification que nous croyons devoir apporter dans le mode d'essai usité jusqu'à

(B.)
French Mint.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

ce jour, la force des choses ne manquera pas de rétablir, dans un avenir très-prochain, un parfait équilibre dans la constatation respective du titre des monnaies mutuellement échangées. Le bureau de commerce ne saurait méconnaître que ces considérations ont beaucoup de valeur en elles-mêmes; qu'elles en ont plus encore peut-être par le ton de confiance et de conviction avec lequel elles sont produites par les hommes les plus compétens en ces matières; il se croit suffisamment autorisé à émettre l'avis que, dans les reproches articulés contre la mesure projetée, il n'y a rien d'assez réel pour que le Gouvernement doive s'abstenir de poursuivre les avantages dont elle a été unanimement jugée susceptible, et que, par conséquent, il y a lieu de donner suite aux projets d'ordonnance royale préparés au département des finances.

(signé) le C^te^ *Beugnot*,
Pair de France, Président du Bureau de Commerce et des Colonies.

Certifié conforme à l'original:
Le Chef des Bureaux faisant fonctions de Secrétaire du Conseil supérieur et du Bureau,
(signé) *Isoard.*

RAPPORT AU ROI.

Sire,

Depuis quelque temps des réclamations s'élevaient au sujet du titre qu'assignait aux matières et espèces le mode d'essai qui est généralement suivi en Europe; des expériences faites au laboratoire des monnaies, ainsi que par des hommes de l'art, concouraient à faire penser que ce mode en effet n'accusait pas, dans tous les cas, avec une exactitude complète, le titre réel de ces valeurs, et qu'à cet égard le vœu de la législation sur la matière ne se trouvait pas rempli.

Une question d'un si haut intérêt méritait d'être approfondie. Elle a paru à mon prédécesseur ne pouvoir l'être utilement, sous tous les rapports qu'elle embrasse, que par le concours des lumières de la science, de l'administration et du commerce. M. le comte de Chabrol a cru devoir dès-lors en confier l'examen à une commission spéciale composée de M. le compte Chaptal, pair de France, président; M. le baron de Fréville, conseiller-d'état; MM. Thénard, Gay-Lussac et Dulong, membres de l'Académie des Sciences; M. Masson, maître des requêtes; M. Say, professeur d'économie industrielle au conservatoire royal des arts et métiers, et M. Benoist-Fould, banquier.

Cette commission était chargée: 1°. d'examiner le mode en usage au laboratoire des monnaies à Paris, pour l'essai des matières et espèces d'argent;

2°. De constater et indiquer les changemens dont ce mode d'essai pourrait être susceptible, en faisant connaître en même temps les effets qu'un nouveau mode d'essai pourrait avoir relativement aux intérêts commerciaux de la France;

3°. De donner son avis sur l'époque à laquelle un semblable changement, s'il était reconnu nécessaire, devrait avoir lieu, ainsi que sur la question de savoir si le nouveau mode d'essai devrait être généralisé, et rendu obligatoire pour les bureaux de garantie et les essayeurs du commerce;

4°. La commission était en même temps appelée à présenter ses vues sur les moyens d'exécution de cette mesure, et à faire connaître si sa réalisation réclamerait une disposition nouvelle dans sa législation qui régit la matière, ou seulement un réglement d'administration publique.

Chacun de ces points a été mûrement examiné et discuté par la commission, dont le travail, digne d'être signalé à l'attention de Votre Majesté, est un traité complet sur la matière.

Il est établi, 1°. que le mode d'essai par la coupellation des espèces et matières d'argent accuse généralement le titre de ces matières un peu trop bas; que la différence du titre ainsi constaté, au titre réel, n'est point proportionnelle à la quantité du métal précieux contenu dans l'alliage; que pour l'argent pur ou à 1000 millièmes, elle est nulle, ou au plus de 1 millième; qu'elle va ensuite en croissant jusqu'aux alliages à 6 ou 500 millièmes, pour lesquels elle est d'environ 5 millièmes, et que de là elle diminue jusqu'à l'alliage à 100 millièmes, où elle redevient presque nulle;

2°. Que les différences des titres accusés, aux titres réels, ne sont pas à beaucoup près les mêmes, ni pour les essayeurs Français, ni pour les essayeurs étrangers, et qu'elles varient avec les temps, les lieux et les personnes;

3° Qu'il est possible cependant d'accuser vrai le titre d'une matière d'argent, soit par le procédé ancien de la coupellation, soit par le procédé nouveau de la voie humide;

4°. Que la législation existante ayant toujours voulu que les titres de matières d'or et d'argent fussent accusés rigoureusement, il s'ensuit qu'aucune disposition législative nouvelle n'est nécessaire à cet égard, et qu'il y a lieu seulement de prescrire à tous les essayeurs du commerce et de la garantie indistinctement de remplir l'obligation, qui leur est imposée par la loi, d'accuser exactement le titre d'un alliage, en prenant sous leur responsabilité tel moyen qu'ils jugeront convenable pour atteindre ce but;

5°. Que le changement proposé, et dont le résultat doit être d'accuser à l'avenir le titre réel des matières d'argent, ne saurait avoir aucun inconvénient pour les intérêts commerciaux de la France;

6°. Qu'il sera indispensable que le tarif du 17 Prairial, an 11, soit revu et rectifié, et qu'une instruction sur l'art des essais, préparée par la commission des monnaies, soit publiée par elle, en même temps que la disposition nouvelle sur le mode d'essai sera mise à exécution.

La

La commission des monnaies, qui avait elle-même reconnu et signalé l'imperfection du mode d'essai des matières et espèces d'argent, par la coupellation, et provoqué l'examen de cette importante question, a été appelée à délibérer sur les conclusions du rapport de la commission spéciale qui a procédé à cet examen.

Elle a pleinement adhéré aux propositions contenues dans ce rapport: le procédé nouveau de la voie humide, pour l'essai des matières et espèces d'argent, étant reconnu offrir l'avantage d'accuser, avec une exactitude presque mathématique et par un résultat direct, le titre des matières, a paru à la commission des monnaies, comme à la commission spéciale, devoir être préféré au procédé ancien de la coupellation, bien qu'à l'aide d'une bonne table de compensation ce dernier puisse également accuser le titre des matières avec exactitude. Mais, pour obtenir à-la-fois du procédé de la voie humide l'exactitude et la célérité que réclame l'essai des espèces d'argent fabriquées dans nos divers établissemens monétaires, et qui doivent être soumises au jugement de la commission des monnaies, il est nécessaire que l'application de ce procédé soit faite par des moyens mécaniques, attendu qu'avec les moyens actuellement en usage elle entraînerait des lenteurs préjudiciables au trésor, toutes les fois qu'il y aurait un nombre un peu considérable d'essais à opérer.

La commission des monnaies a donc représenté que d'ici à l'époque où le nouveau procédé de la voie humide pourra être employé avec tout le succès desirable, il sera encore nécessaire de procéder à l'essai des espèces d'argent fabriquées, par la voie de la coupellation, ce qui sera, au reste, sans inconvénient, puisque le résultat qu'on obtient de ce mode d'essai peut être exactement rectifié aujourd'hui par une table de compensation.

Il est à remarquer, d'un autre côte, que l'usage que l'on continuera de faire ainsi, au laboratoire des monnaies à Paris, du procédé de la coupellation, n'aura lieu que pour le jugement du titre des espèces nouvellement fabriquées et trouvées dans les limites. La vérification du titre des pièces trouvées hors des limites légales, et les contre-essais des lingots et matières d'or et d'argent du commerce, prescrits par la loi du 19 Brumaire, an 6, seront toujours opérés par le procédé de la voie humide.

La commission des monnaies a reconnu, comme la commission spéciale, qu'aucun mode d'essai ne pouvait être prescrit aux essayeurs des bureaux de garantie et du commerce, lesquels sont et doivent demeurer libres dans le choix de ce mode, puisqu'ils ont la responsablilité de l'exactitude du titre qu'ils assignent aux matières et ouvrages d'or et d'argent qui leur sont présentés par le commerce. La loi a d'ailleurs prévu et déterminé les cas où des contre-essais devraient avoir lieu, et comme je viens de le dire, ce sera, dans ces circonstances, toujours par le moyen de la voie humide qu'il y sera procédé au laboratoire des monnaies à Paris.

Consulté sur le but de cette mesure et sur ses effets en ce qui touche nos intérêts commerciaux, le bureau de commerce et des colonies a émis un avis qui ajoute à la sécurité manifestée à cet égard par la commission spéciale et la commission des monnaies.

D'après ce qui vient d'être exposé, il est établi en fait que le mode d'essai par la coupellation, suivi au laboratoire des monnaies à Paris, n'est pas rigoureusement exact; qu'il affaiblit plus ou moins le titre des matières et espèces d'argent; que par conséquent il ne remplit pas le vœu de la loi. Sa rectification est donc devenue indispensable, et le Gouvernement, éclairé comme il l'est aujourd'hui sur ce point, ne peut se dispenser de prendre les mesures qui sont en son pouvoir pour assurer, à l'avenir, l'entière exactitude du titre des matières et espèces d'argent.

Il y a d'autant moins lieu d'hésiter dans cette détermination, qu'aucune des conséquences de la rectification qu'il s'agit d'opérer n'est jugée susceptible de causer le moindre dommage à l'intérêt public, tandis que, par sa coïncidence avec la refonte de nos anciennes monnaies d'argent, elle offre à l'état un avantage réel. En effet, le tarif actuel, dont la base est défectueuse, n'assigne aux écus de 6 et 3 livres et aux pièces de 24, 12 et 6 sous que 907 millièmes d'argent fin, bien qu'en réalité ils en contiennent 911; d'où il résulte une différence de 4 millièmes, qui, appliquée à 600 millions d'espèces qu'on suppose que la refonte doit embrasser, se réalisera en une plus-value d'environ 2,640,000 francs au profit du trésor. En ajoutant ce bénéfice à celui de 3,600,000 francs déjà obtenu de l'adjudication de l'affinage des mêmes espèces, l'état aura acquis une ressource totale de 6,240,000 francs, et le moyen d'atténuer, dans la proportion des deux tiers environ, à la décharge des contribuables, la dépense que doivent occasionner les frais de refonte de nos anciennes monnaies.

D'un autre côté, Votre Majesté ne remarquera pas sans intérêt que le bénéfice de la plus-value, qu'assignera à ces monnaies le nouveau mode d'essai, s'étendra aux détenteurs d'espèces altérées qui, n'étant plus admises dans les caisses publiques pour leur valeur nominale, seraient livrées comme matière au change des monnaies. Ainsi, sous ce rapport encore, la mesure aura une opportunité toute particulière.

Mais en définitive, son but essentiel est, en ramenant le mode d'essai à l'exactitude rigoureuse voulue par la loi, d'assurer et de garantir la parfaite intégrité du titre de nos monnaies, tel qu'il a été fixé par la loi du 7 Germinal, an 11.

J'ai l'honneur de soumettre à l'approbation de Votre Majesté deux projets d'ordonnance destinés à réaliser les mesures dont il s'agit.

Les Ministre des Finances,

Paris, ce 6 Juin 1830. *Montbel.*

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

ORDONNANCE DU ROI.

CHARLES, par la Grâce de Dieu Roi de France et de Navarre,

D'après le compte qui nous a été rendu des réclamations auxquelles donnait lieu le mode d'essai employé jusqu'ici pour constater le titre des matières et espèces d'or et d'argent;

Vu le rapport de la commission spéciale, chargée, par notre ministre secrétaire d'état des finances, d'examiner jusqu'à quel point lesdites réclamations pouvaient être fondées;

Vu la loi du 7 Germinal, an 11, portant que 5 grammes d'argent, au titre de 9/10 de fin, constituent l'unité monétaire, désignée sous le nom de franc;

Vu la délibération et l'avis de la commission des monnaies, en date du 8 Avril 1830;

Vu l'avis du bureau de commerce et des colonies;

Considérant qu'il importe aux intérêts du commerce et du public que le titre des matières d'or et d'argent soit constaté d'une manière exacte, conformément au vœu de la loi;

Considérant qu'il est reconnu que le mode d'essai par la coupellation ne peut donner un résultat exact, dans tous les cas, pour les matières et espèces d'argent, qu'au moyen de calculs de compensation, et que le mode par la voie humide ne laisse rien à desirer, quant à l'exactitude des titres qu'ils constate;

Considérant qu'il doit résulter, des modifications réclamées dans le mode d'essai actuel, une surévaluation dans le prix des matières d'argent anciennement titrées, et qui seraient versées aux changes des hôtels des monnaies;

Considérant que les essayeurs du commerce et de la garantie sont responsables, sous les peines portées par la loi, de la déclaration du titre qu'ils accusent; et qu'en raison même de cette responsabilité, ils doivent demeurer libres dans le choix du mode d'essai qu'ils emploient;

Sur le rapport de notre ministre secrétaire d'état des finances;

Nous avons ordonné et ordonnons ce qui suit:

ART. 1^er^. Quel que soit le mode d'essai suivi par un essayeur, pour titrer les matières d'or et d'argent, il sera tenu, sous sa responsabilité, d'en accuser le véritable titre; il lui sera transmis, par la commission des monnaies, une instruction, approuvée par notre ministre secrétaire d'état des finances, sur la manière d'opérer du laboratoire des essais.

ART. 2. Les contre-essais des lingots et matières d'or et d'argent du commerce, faits, aux termes de la loi du 19 Brumaire, an 6, à l'hôtel des monnaies de Paris, auront toujours lieu à l'avenir par le procédé de la voie humide.

ART. 3. Les essais et contre-essais, relatifs au jugement du titre des espèces d'argent fabriquées dans nos hôtels des monnaies, auront également lieu par la voie humide.

Lorsque, par des motifs de nécessité, dont la commission des monnaies sera juge, ce mode ne pourra être employé, il y sera suppléé par l'ancien mode de la coupellation, en rectifiant les résultats au moyen de la table de compensation arrêtée par la commission des monnaies. Toutefois la vérification du titre des pièces trouvées hors des limites légales devra toujours se faire par le procédé de la voie humide.

ART. 4. Le prix des matières et espèces, comprises au tarif du 17 Prairial, an 11, et des matières et espèces légalement titrées depuis sa publication, sera augmenté de la valeur acquise à chaque titre, d'après la table de compensation ci-dessus mentionnée.

Il sera rédigé à cet effet un nouveau tarif par notre commission des monnaies, lequel sera publié, après avoir été approuvé par notre ministre secrétaire d'état des finances, et servira de base au prix que les directeurs de la fabrication des monnaies devront payer aux porteurs de matières.

ART. 5. Notre ministre secrétaire d'état des finances est chargé de l'exécution de la présente ordonnance, qui sera insérée au bulletin des lois.

Donné en notre château de Saint-Cloud, le 6 Juin de l'an de grâce 1830, et de notre règne le 6^e^.

(signé) CHARLES.

Par le Roi:
Le Ministre Secrétaire d'État des Finances,
(signé) *Montbel.*

Pour ampliation:
Le Secrétaire Général des Finances,
(signé) *De Boubers.*

ORDONNANCE DU ROI.

CHARLES, par la Grâce de Dieu Roi de France et de Navarre,

Vu notre ordonnance du 6 Juin présent mois, déterminant les différens modes d'essai qui seront suivis à l'avenir au laboratoire de la commission des monnaies, pour constater le titre des espèces qui seront fabriquées dans nos hôtels des monnaies, et pour vérifier, s'il y a lieu, le titre des espèces et matières d'argent qui seront versées aux changes de ces hôtels;

Vu la délibération de la commission des monnaies, qui indique les accroissemens de titre que lesdites espèces et matières d'argent doivent éprouver, par suite des modes d'essai qui seront suivis, pour en accuser le titre réel;

Sur le rapport de notre ministre secrétaire d'état des finances;

Nous avons ordonné et ordonnons ce qui suit:

ART. 1^er^. Les directeurs de la fabrication dans nos hôtels des monnaies compteront sur le pied de 911 millièmes du fin contenu dans les espèces duodécimales d'argent de six livres, trois

trois livres, vingt-quatre sous, douze sous, et six sous, qui leur seront versées, en exécution de la loi du 14 Juin 1829, tant par le trésor que par les particuliers.

Ils recevront, au même titre de 911 millièmes, les espèces duodé-décimales d'argent rognées, altérées, ou sans empreinte, qui seront versées au change par les particuliers, pour le poids qu'elles auront conservé, et elles seront payées comme lingots par les directeurs, à raison de 199 francs 41 centimes le kilogramme.

Art. 2. Notre ministre secrétaire d'état des finances est chargé de l'exécution de la présente ordonnance, qui sera insérée au bulletin des lois et affichée dans les bureaux de change des hôtels des monnaies.

Donné en notre château de Saint-Cloud, le 6 Juin 1830, et de notre règne le 6e.

(signé) Charles.

Par le Roi:
Le Ministre secrétaire d'État des Finances,
(signé) *Montbel.*

Pour ampliation,
Le Sécrétaire Général des Finances,
(signé) *De Boubers.*

ARGENT.

Tarif du prix auquel doivent être payés au Change, dans les hôtels des Monnaies, les espèces et ouvrages d'argent ci-après désignés, en conformité de la loi du 28 Mars 1803, (7 Germinal, an 11), qui ordonne que les pièces d'argent seront fabriquées au titre de 900 millièmes; que le franc, unité monétaire, sera du poids de 5 grammes, et qui fixe la retenue, pour frais de fabrication et de déchet, à 3 francs par kilogramme d'argent, au titre de 900 millièmes.

DÉNOMINATIONS Des espèces et ouvrages d'Argent.	TITRES.	Valeur par kilogramme. F.	C.
Gros écus de Palatinat	984	215	39
Gros écus de Nassau-Weilbourg	978	214	07
Pièces de 5 francs et 10 francs du royaume d'Étrurie (effigie de la reine et de son fils)	957	209	48
Jetons de France et jetons de Pondichéry	953	208	60
Argenterie de France (1er. titre) marquée depuis la loi du 19 Brumaire, an 6 / Argenterie au poinçon de Paris, tant plate non soudée que plate soudée, marquée antérieurement à la loi du 19 Brumaire, an 6. / Roupies de Mogol	950	207	94
Roupies de Madras	947	207	29
Roupies d'Arcate des Indes	944	206	63
Vaisselle montée de Paris, marquée avant la loi du 19 Brumaire, an 6 / Philippes de Milan	941	205	97
Vaisselle plate des départmens, marquée antérieurement à la loi du 19 Brumaire, an 6	937	205	10
Roupies de Perse	934	204	44
Vaisselle plate soudée et Vaisselle montée des départemens, marquées antérieurement à la loi du 19 Brumaire, an 6	930	203	57
Couronnes et Schellings d'Angleterre et Vaisselle Anglaise	923	202	03
Ducatons de Liége et de Parme	921	201	60
Écus de France avant 1726, de 8, 9, 10 et 10 3/8 au Marc	917	200	72
Écus de banque de Gênes	914	200	06
Écus de 6 livres, 3 livres et Pièces de 24, 12 et 6 sous, depuis 1726, rognés ou effacés. Florins de Hollande	911	199	41
Piastres aux deux globes, Mexicos et Sevillanes / Écus de Rome et pièces de 8 de Florence	910	199	19
Écus de Piémont et de Schaffouse. Testons de Rome	907	198	53
Écus neufs de Piémont depuis 1816	904	197	88
Ducats de Naples; Monnaie blanche de Naples. Écus de Suède	903	197	66
Dollars d'Amérique depuis 1800. Piastres à l'effigie de la fabrication commencée en 1772. Cruzades de Portugal	900*	197	—
Pièces de 12 carlins d'Italie	888	194	37
Écus de Hanovre, de Hambourg, de Danemarck, et Rixdales de constitution d'Autriche	879	192	40
Florins d'Autriche. Couronnes de Brabant (dites Croisons)	876	191	75
Écus de Brabant, et Roubles de Russie depuis 1798	874	191	31
Rixdales de Hollande et Écus de Bâle	869	190	21
Ducatons et Écus de Flandres et des Pays-Bas autrichiens. Georgines de Gênes. Écus de Lucerne et de Saint-Gall	862	188	68
Patagons de Genève	844	184	74
Écus de convention d'Allemagne et Pièces de 12 sous de Luxembourg	837	183	21
Florins d'Underwald	836	182	99
Écus de Malte, 5e., 10e. et 20e. de Piastre d'Espagne avant 1772	834	182	55
Écus de Brunswick et de Ratisbonne et Madonines de Gênes	830	181	68

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

DÉNOMINATIONS. Des espèces et ouvrages d'Argent.	TITRES.	Valeur par kilogramme. F.	C.
Anciennes pièces de France dites de 20 sous, 40 sous et 4 sous. Rixdales et Couronnes de Danemarck et Pièces de 12 tarins de Sicile	827	181	02
Écus ou Rixdales d'Anspach et de Bavière	823	180	15
Ducats de Venise	817	178	83
Écus de Zurich	813	177	96
5e., 10e. et 20e. de Piastre d'Espagne depuis 1772	812	177	74
Thalaris	811	177	52
Argenterie de France (2e. titre) marquée depuis la loi du Brumaire, an 6	803	175	77
Roubles de Russie	792	173	36
Argenterie marquée d'un aigle, et celle marquée de la lettre A surmontée d'une croix	789	172	70
Argenterie marquée d'une scie	762	166	79
Florins de Mayence	752	164	60
Rixdales ou Écus de Prusse depuis 1775	746	163	29
Florins de Bade-Dourlach	745	163	07
Écus de Lubeck. Kopfstuck de Hesse-Darmstadt et de Cologne. Petermen de Trèves	737	161	32
Écus de Bareith	734	160	66
Florins de Mecklembourg	613	134	18
24 kreutzers d'Allemagne depuis 1753	586	128	27
Doubles et simples Escalins de Brabant	578	126	52
Doubles et simples Escalins et Plaquettes de Liége	573	125	42
4 gros ou 1/6 d'écu (Petit-Cheval) de Brunswick Wolfenbutel	561	122	80
4 gros ou 1/6 d'écu de Saxe depuis 1763	544	119	08
Piastres de Tunis et de Constantinople et dubletyes de Hollande	533	116	67
Plaquettes ou 1/2 Escalin de Brabant	505	110	54
Pièces de 12 kreutzers d'Allemange depuis 1753	498	109	01
Pièces de 2 gros (ou 1/12 d'écu) de Saxe depuis 1763	439	96	09
Pièces de 2 sous 6 deniers de Brabant	414	90	62

* *Observation.*—Les matières et espèces au-dessous du titre de 900 millièmes sont passibles du droit d'affinage fixé par l'ordonnance royale du 15 Octobre 1828, lors-qu'elles sont versées isolément au change des monnaies. Le droit d'affinage n'est pas dû sur les matières dont le titre commun ressort à 900 millièmes.

Le présent tarif, vérifié et certifié exact.
Le Vérificateur et les Essayeurs des Monnaies,
(signé) *Bréant, Chaudet, Chevillot.*

Vu, le Directeur des Essais,
(signé) *D'Arcet.*

Arrêté par la Commission des Monnaies. Le 29 Avril 1830.
Le Pair de France Président, (signé) *Cte. De Sussy.*
Les Commissaires Généraux, (signé) *Brunet, Lambert.*

Approuvé, Paris, le 10 Juin 1830.
Le Ministre Secrétaire d'Etat des Finances,
(signé) *Montbel.*

Pour ampliation,
Le Secrétaire Général des Finances,
(signé) *De Boubers.*

INSTRUCTION relative aux Procédés suivis au Laboratoire des Essais de la Commission des Monnaies, pour les Essais, Contre-essais et Vérifications des Espèces et des Matières d'Or et d'Argent.

LES expériences publiées par Tillet, de **1761** à **1763**, avaient appris que le procédé de la coupellation, généralement employé pour déterminer le titre des matières d'argent, l'accusait de quelques millièmes trop bas. Tillet, en dénonçant ce fait, manifestait le desir, sans toutefois en avoir l'espérance, que la gravité en fût appréciée par les diverses cours de l'Europe, et qu'on s'entendît sur les moyens de rendre le mode d'essai plus uniforme et plus sûr. Mais les expériences de Tillet furent bientôt oubliées; ou plutôt, on craignit de toucher à un procédé d'après lequel se réglaient les transactions en matières d'argent: l'on sentit d'ailleurs d'autant moins le besoin de le corriger, qu'aucune plainte ne s'élevait, et que la perte dans les matières d'argent, causée par une trop faible évaluation de leur titre, circulait inaperçue par le vendeur, comme par l'acheteur. C'est ainsi que ce procédé s'est transmis d'une génération à l'autre, et a été scrupuleusement conservé par les administrations qui en ont été successivement dépositaires: cependant les progrès récens de l'art de l'affineur en ont fait ressortir les imperfections; des réclamations se sont élevées, et de là est née l'impérieuse nécessité d'accuser désormais le véritable titre des matières d'argent.

Tel

Tel est le but de l'ordonnance royale du 6 Juin 1830. En imposant aux essayeurs l'obligation d'accuser désormais le véritable titre des matières d'or et d'argent, elle a voulu, par la publication d'une instruction, leur faciliter les moyens de corriger leurs manipulations: ce résultat ne peut être mieux atteint qu'en décrivant les procédés qui sont maintenant suivis au laboratoire des essais de la commission des monnaies. Cette instruction fera ainsi connaître les changemens survenus, dans les travaux de ce laboratoire, par l'exécution de l'ordonnance.

TABLE de Compensation pour Corriger les Titres des Matières d'Argent obtenus par la Coupellation.

Les pertes occasionnées par la coupellation, telle qu'on la pratique dans le laboratoire des essais de la commission des monnaies, ont d'abord été constatées par un grand nombre d'expériences faites sur des alliages d'argent, fondus avec le plus grand soin, et sur de simples mélanges d'argent et de cuivre à différens titres. Ce travail a servi à composer la table qui se trouve à la suite de cette instruction, et qui a été adoptée provisoirement comme table de compensation pour convertir à l'avenir, en titres réels, les titres obtenus aux fourneaux à coupelle du laboratoire des essais.

Chaque essayeur n'employant pas les mêmes doses de plomb, et opérant à des températures différentes et dans des circonstances atmosphériques très-variables, sera obligé de faire un travail semblable, et de composer, pour les circonstances où il se trouvera, la table de compensation qu'il aura à employer: on ne présente donc ici ce qui a été fait à ce sujet que comme modèle, et non pas comme pouvant être utilement employé ailleurs qu'au laboratoire des monnaies.

Les essais et contre-essais relatifs au jugement du titre des espèces d'argent fabriquées dans les hôtels des monnaies se font, autant que les circonstances le permettent, par le procédé de la voie humide. Lorsque ces essais ou contre-essais ont lieu par la coupellation, on en rectifie les résultats au moyen de la table de compensation, arrêtée par la commission des monnaies, c'est-à-dire, en augmentant tous les titres de 4 millièmes, nombre de compensation correspondant au titre moyen de 900 millièmes.

Quant à la vérification du titre des pièces trouvées hors des limites, elle a toujours lieu, conformément à l'article 3 de l'ordonnance, par le procédé de la voie humide, et il en est de même pour la vérification du titre des lingots et matières d'argent qui, aux termes de la loi du 19 Brumaire, an 6, doit être faite à l'hôtel des monnaies de Paris.

Relativement au tarif du 17 Prairial, an 11, on a seulement à faire observer ici que les titres des matières ou espèces d'argent qui y étaient portés, ont été augmentés chacun du nombre correspondant dans la table de compensation qui se trouve à la fin de la présente instruction; c'est ainsi qu'a été rectifié le tarif qui sert actuellement de base, dans les changes des monnaies, aux transactions qui s'y font entre les particuliers et les directeurs de la fabrication monétaire.

Des Essais d'argent par le moyen de la coupellation.

On n'a rien changé au procédé de coupellation suivi au laboratoire des essais, et au moyen duquel on a composé la table de compensation qui a été citée plus haut. On veillera avec le plus grand soin à n'apporter aucun changement dans ce mode d'essai, afin de pouvoir toujours faire usage de la même table de compensation; on s'assurera d'ailleurs souvent de la marche régulière des opérations, en essayant, soit des lingots à des titres bien connus, soit de simples mélanges d'argent et de cuivre purs en proportions exactement déterminées, ce qui servira de contrôle aux essais ordinaires des délivrances, qui seuls pourront continuer à être faits par le moyen de la coupelle.

Des Essais d'or.

L'expérience a prouvé que, malgré l'exactitude de procédé employé pour essayer l'or et ses alliages, les essayeurs ne parviennent cependant pas toujours à en déterminer les véritables titres, et que c'est en général en plus qu'existent les erreurs commises; cet inconvénient se remarque surtout depuis que l'art de l'affinage, porté à un haut point de perfection, a versé dans le commerce de grandes quantités d'or pur: voici quels sont les changemens qui ont été apportés au laboratoire des essais, dans le procédé dont il s'agit, pour en bien régulariser la marche, et pour en obtenir constamment des résultats exacts.

On continue à ne faire les essais d'or qu'en opérant sur le demigramme, et on amène toujours l'alliage, soumis à l'opération du départ, à contenir trois parties d'argent contre une d'or.

On passe l'essai d'or à la coupelle, en n'y employant que la dose de plomb convenable; et on opère à la moindre température possible, afin d'éviter l'introduction d'une partie de l'or dans la coupelle.

Si l'on essaie de l'or à haut titre, le bouton de retour doit être brossé en dessous, sans le serrer trop fortement dans la pince; on le faite ensuite rougir, dans une coupelle neuve, avant de l'aplatir, parce que, sans cette précaution, il pourrait être aigre: on l'aplatit, on le recuit de nouveau, on le lamine, on fait recuire la lame, on la roule en spirale, que l'on fait recuire, et que l'on soumet d'abord à l'action de l'acide nitrique à 22 degrés de Beaumé, jusqu'après le dégagement du gaz nitreux, ce qui a lieu en cinq minutes environ; on passe ensuite,

(B)
French Mint.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

ensuite, et successivement deux fois, de l'acide nitrique à 32 degrés sur le cornet, en maintenant l'ébullition pendant dix minutes chaque fois, et l'on termine enfin l'essai comme on le fait ordinairement, c'est-à-dire, en lavant le cornet avec de l'eau distillée, et en le faisant recuire sous la moufle. En opérant ainsi, et en se réglant sur quelques essais faits au moyen de mélanges ou d'alliages d'or et d'argent à proportions bien connues, pour donner aux lames l'épaisseur convenable, et aux révolutions du cornet l'écartement nécessaire, on parviendra toujours facilement à déterminer le véritable titre de l'or et des alliages de ce métal.

De l'Essai d'or tenant argent.

La nécessité d'opérer rapidement dans les laboratoires, où il se fait un très-grand nombre d'essais par jour, a fait penser à quelques essayeurs que l'on pouvait sans inconvénient, dans l'essai des alliages d'or et d'argent, se servir du bouton passé à la coupelle, dans le but de connaître le titre or et argent du lingot, pour déterminer ensuite, par le moyen du départ, la quantité d'or pur qui s'y trouve ; mais il y a déjà quelques années que l'on a reconnu que cette méthode, qui oblige souvent à coupeller deux fois la même prise d'essai, était vicieuse, et qu'il en résultait alors une perte d'or assez considérable. C'est pour éviter ce grave inconvénient que l'on opère comme il suit au laboratoire des monnaies, quand on veut y titrer des alliages d'or et d'argent.

On passe à la coupelle un demi-gramme de l'alliage, en opérant avec la quantité de plomb, et à la chaleur convenables (*a*). On détermine ainsi la proportion d'or et d'argent réunis qui se trouvent dans le lingot. On pèse ensuite une nouvelle prise d'essai, du poids d'un demi-gramme ; on en fait l'inquartation ; on passe le tout à la coupelle, et on traite le bouton comme il a été dit ci-dessus, en parlant des essais d'or.

Des Essais de doré ou d'argent ne contenant que peu d'or.

L'essai de doré pouvant se faire sans avoir recours à l'inquartation, ne présente pas l'inconvénient cité plus haut en parlant de l'essai d'or tenant argent ; ici, on n'a besoin que de passer la prise d'essai une seule fois à la coupelle. Lorsque le doré est peu chargé en or, l'essai doit être fait sur un gramme de l'alliage ; il suffit alors, pour arriver à des résultats exacts, ou d'opérer la coupellation de manière à n'avoir ni augmentation ni perte sur la quantité d'argent, ou de compenser exactement les différences que l'on peut trouver. Le départ du bouton doit ensuite se faire, en prenant toutes les précautions qui ont été indiquées au chapitre où il est parlé des essais d'or.

De l'Essai d'argent par la voie humide.

La commission spéciale (*b*) qui, par le rapport qu'elle a fait sur le perfectionnement de l'art de l'essayeur, a déterminé le Gouvernement à introduire, dans les procédés de cet art les changemens relatés dans les dispositions de l'ordonnance en date du 6 Juin 1830, a proposé, et fait mettre à exécution un nouveau mode d'essai bien convenable, pour déterminer le titre de l'argent. Ce procédé dû à M. Gay-Lussac, rapporteur de la commission, consiste à dissoudre dans l'acide nitrique deux grammes de l'argent que l'on veut essayeur, et à déterminer exactement la quantité d'argent pur qui se trouve dans cette liqueur, en précipitant cet argent par une dissolution de sel marin, titrée ou composée de manière que cent grammes de cette dissolution puissent justement précipiter deux grammes d'argent fin. Ce procédé, qui a été appliqué avec le plus grand succès aux travaux du laboratoire des monnaies, étant nouveau, donnant à l'art de l'essayeur la précision qui lui manquait, et devant être, sinon toujours adopté de préférence à la coupellation, au moins employé dans les cas difficiles et comme moyen de vérification, doit être décrit, avec tous les détails nécessaires, dans cette instruction, pour en faciliter la pratique aux essayeurs.

Description du procédé.

On a dit que, dans le procédé de l'essai d'argent par la voie humide, le titre de l'argent se déterminait au moyen d'une dissolution de sel marin : l'on va indiquer les moyens de composer cette dissolution.

On prendra du sel marin pur et parfaitement sec, ou à défaut, du sel marin blanc du commerce (*c*), et on en fera une dissolution dans le rapport de 100 grammes de sel à 9,143^{s} 85 d'eau distillée : la dissolution étant complète, on la vérifiera, et on en réglera le titre, comme il suit.

On fera dissoudre 2 grammes d'argent pur dans 10 grammes d'acide nitrique à 22 degrés, en se servant du flacon A, dont on voit le dessin à la figure I^{re}. de la planche jointe à cette instruction ; on y versera peu à peu, et en agitant bien, 100 grammes de la dissolution de sel

(*a*) Il faut opérer de manière à n'avoir ni perte ni surcharge dans le bouton de retour : on arrivera à ce résultat, en faisant les opérations synthétiques nécessaires. On pourrait encore composer une table pour compenser les différences en plus ou en moins résultant de la coupellation.

(*b*) Cette commission était composée de S. S. le comte Chaptal, pair de France, président ; de MM. le baron Thénard, Dulong, Gay-Lussac, membres de l'Académie royale des sciences ; baron de Fréville, conseiller d'état ; Masson, maître des requêtes ; J. B. Say, professeur d'économie industrielle, et Benoît-Fould, banquier.

(*c*) Si l'on était obligé d'employer le sel blanc du commerce, il serait avantageux de réduire ce sel en poudre fine et de le laver dans le moins d'eau possible ; il faudrait ensuite le presser entre des linges ou entre des papiers non collés, et le faire bien sécher avant de l'employer.

sel marin (*a*); on bouchera le flacon, on l'agitera pendant quelques minutes, on laissera éclaircir la liqueur, ou bien on en filtrera un peu sur un petit filtre lavé à l'eau distillée; on en versera dans deux verres propres; on ajoutera dans l'un quelques gouttes de nitrate d'argent, et dans l'autre un peu de dissolution de sel. S'il se forme un précipité dans le premier verre, on saura que la dissolution de sel titrée est trop forte; elle sera trop faible, s'il se forme un précipité dans le second verre, et elle sera au contraire bien constituée, si elle n'est louchie ni par le nitrate d'argent, ni par la dissolution de sel marin. Dans les deux cas, où la dissolution de sel marin ne serait pas composée exactement comme on le desire, il faudrait y ajouter peu à peu, soit du sel marin pur, soit de l'eau distillée, jusqu'à ce qu'on l'ait amenée, par tâtonnement, au point de précipiter juste 2 grammes d'argent, en employant 100 grammes de cette dissolution: elle sera alors convenable pour faire les essais d'argent par la voie humide (*b*). On n'aura plus qu'à la renfermer dans une bouteille fermée avec un bouchon de verre à l'émeri, graissé avec du suif et qu'à la garder sous clé quand on ne s'en servira pas.

Voici maintenant la série des manipulations pour essayer un alliage d'argent par la voie humide.

On pèse 2 grammes de cet alliage, on les introduit dans le flacon A, figure I^re^. de la planche, on jauge 10 grammes d'acide nitrique à 22 dégrés dans le tube en verre B, figure 2^e^, ou, au moyen de la pipette C, figure 3^e^, on verse cet acide dans le flacon A, et on favorise la dissolution de l'argent en plaçant le flacon sur des cendres chaudes, sur un bain de sable ou au bain-marie. La dissolution de l'argent étant complète, on y ajoute 50 grammes, ou un demi-décilitre, d'eau distillée; on prend la burette D, qui est représentée à la figure 4^e^, et qui est graduée en 100 parties contenant chaque 1 gramme de dissolution de sel titrée; on remplit la burette jusqu'au zéro de sa division, et on en prend le poids bien exactement avec des poids décimaux et en le suspendant à l'un des plateaux d'une balance très-sensible; on note le poids trouvé, et on verse peu à peu, en opérant à l'ombre et en agitant bien chaque fois, de la dissolution de sel titrée dans le flacon. Il faut opérer lentement, et goutte à goutte vers la fin de l'opération. On agite alors le flacon plus fortement et pendant une minute; on essai la liqueur, et on continue l'opération en tâtonnant ainsi.

Pour que l'essai soit bien fait, il faut que la dissolution de sel ne trouble plus sensiblement la liqueur, et que cette liqueur ne se trouble cependant pas lorsqu'on y ajoute une goutte de dissolution de nitrate d'argent. Lorsqu'on est arrivé à ce point et qu'on l'a bien établi, il ne reste plus qu'à peser de nouveau la burette, qu'à déduire le poids trouvé, du poids primitif, et qu'à ajouter un zéro à la différence, si le nombre est entier, ou à reculer la virgule d'une place vers la droite, s'il est fractionnaire. On obtient ainsi, en millièmes et fractions décimales de millième, le titre de l'argent soumis à l'essai. Un seul exemple du calcul à faire, dans ces deux cas, éclaircira suffisamment ce qui vient d'être dit à ce sujet.

Supposons que le poids de la burette pleine de dissolution de sel titrée soit de	307^g^	
Et que son poids, après l'essai, soit de - - - - - - - -	217	
On aurait employé en dissolution de sel - - - - - - - -	90^g^	
Ce qui représenterait exactement le titre de 900 millièmes.		
En supposant que la burette, pleine de dissolution saline titrée, pesât, avant l'essai - - - - - - - - - - - - - -	307^g^	56
Et après l'essai - - - - - - - - - - - - - -	217	00
La dissolution employée pèserait - - - - - - - - -	90^g^	56
Ce qui donnerait le titre de 905 millièmes 6.		

On

(*a*) On pourra se servir, pour verser exactement 100 grammes de la dissolution de sel dans le flacon A., de la burette D., fig. 4, comme on le dira plus bas.

(*b*) Si l'on voulait s'éviter les tâtonnemens dont il est ici question, il faudrait déterminer bien exactement quelle est la quantité de dissolution de sel nécessaire pour précipiter 2 grammes d'argent pur, dissous dans 10 grammes d'acide nitrique. Des calculs fort aisés à faire indiqueraient ensuite facilement ce qu'il faudrait ajouter d'eau ou de sel marin à la liqueur, s'il y manquait quelque chose. Voici quelques exemples qui aplaniront sans doute toute difficulté.

En supposant qu'il ait fallu 104 grammes de la dissolution de sel pour précipiter exactement les 2 grammes d'argent pur, il est évident qu'il y a 4 grammes d'eau de trop par 104 grammes de cette dissolution; il faut donc en enlever ces 4 grammes d'eau par le moyen de l'évaporation, ou, ce qui sera plus facile, ajouter dans la dissolution la quantité de sel marin pur, nécessaire pour convertir ces 4 grammes d'eau en dissolution titrée. Or, d'après les bases qui ont été établies plus haut, ce serait 0^g^ 043 de sel qu'il faudrait, pour arriver à ce but; il ne resterait donc qu'à peser la dissolution de sel marin que l'on aurait à fortifier, et à y ajouter autant de fois 0^g^043 de sel marin pur, qu'elle pèserait de fois 104 grammes.

Si la dissolution de sel marin était trop concentrée, et qu'il n'en fallût, par exemple, que 95 grammes pour précipiter exactement les 2 grammes d'argent pur, il suffirait, dans ce cas, de peser la dissolution dont il s'agit, et d'y ajouter autant de fois 5 grammes d'eau distillée, qu'elle pèserait de fois 95 grammes.

On peut, en opérant ainsi, s'éviter bien des tâtonnemens. On conseille cependant de ne regarder la dissolution saline comme étant bien constituée; qu'après avoir plusieurs fois constaté qu'il en faut exactement 100 grammes pour précipiter 2 grammes d'argent fin, dissous dans 10 grammes d'acide nitrique.

(B.)
French Mint.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

On croit inutile d'insister davantage sur les précautions à prendre en pratiquant ce nouveau mode d'essai, parce qu'on pourra s'y habituer facilement, en n'opérant d'abord que sur de l'argent pur, ou sur des alliages d'argent à des titres bien connus ; il sera d'ailleurs toujours utile de s'aider de la coupellation, toutes les fois qu'on le pourra, pour s'éviter de longs tâtonnemens, ou la peine de recommencer les essais dans lesquels on aurait employé de prime abord trop de dissolution saline (*a*). En opérant ainsi, on pourra verser de suite, dans la dissolution des deux grammes d'argent, toute la dissolution de sel équivalant au titre trouvé par la coupellation ; on n'aura plus qu'à tâtonner pour obtenir les derniers millièmes que l'on perd au fourneau à coupelle, et qui sont indiqués approximativement dans la table de compensation qui fait partie de cette instruction.

Ce nouveau moyen d'essai, si parfait lorsqu'on n'a qu'à déterminer le titre de l'argent et de ses alliages avec le cuivre, n'est malheureusement pas aussi simple lorsqu'il s'agit d'alliages d'argent contenant de l'or; il faut alors déterminer d'abord la quantité d'or, comme on le fait ordinairement, et comme il a été dit plus haut, en parlant des essais des alliages d'or et d'argent, et chercher ensuite, par la voie humide, quelle est la proportion exacte de l'argent dans l'alliage essayé.

Si l'alliage ne contenait pas assez d'argent pour que le départ pût être opéré, il faudrait faire l'inquartation avec de l'argent pur, et en pesant exactement la quantité d'argent employée. On passerait l'essai à la coupelle, comme il a été dit plus haut, en parlant des essais d'or tenant argent ou d'argent contenant un peu d'or. On ferait le départ du bouton ; on réunirait, avec soin, la dissolution d'argent et les lavages du cornet; on déterminerait, par le procédé de la voie humide, la quantité d'argent qui se trouverait dans ces liqueurs, et on en déduirait la quantité d'argent employée pour l'inquartation; la différence indiquerait exactement la proportion d'argent dans l'alliage essayé. Si cet alliage contenait assez d'argent pour que le départ pût être fait sans avoir recours à l'inquartation, il suffirait alors de coupeller la prise d'essai en prenant les précautions qui ont été indiquées ci-dessus ; d'opérer le départ du bouton, et enfin de déterminer par la voie humide, et comme on vient de le dire, la quantité d'argent qui se trouverait dans ces liqueurs.

On voit qu'en réunissant les données acquises par ces procédés, on parviendra à la connaissance exacte de la composition des alliages dont il s'agit, résultat des plus satisfaisans, puisqu'avant la connaissance du procédé par la voie humide, et en opérant par la coupellation et le départ, le titre argent de l'alliage était constamment indiqué beaucoup trop bas.

On terminera cette instruction en rappelant aux essayeurs que, dans le refroidissement des alliages coulés en lingots, l'alliage perd toujours plus ou moins de son homogénéité ; qu'il existe dans le commerce des lingots dont l'alliage fondu a été mal brassé ; qu'il s'y trouve d'autres lingots fourrés, ou saupoudrés, au moment de la coulée, avec de l'or ou de l'argent à plus haut titre ; et enfin, des lingots affinés à leur surface par un très-fort blanchîment ; d'où il suit que devant déclarer le titre exact des lingots qui leur sont présentés, et étant responsables des titres qu'ils déclarent, les essayeurs ont le plus grand intérêt à bien constater, avant tout, l'homogénéité des lingots qu'ils essaient, et à refuser d'y apposer leur poinçon, s'ils reconnaissent l'impossibilité de le faire avec sécurité. Lorsqu'un cas pareil se présente au laboratoire des essais, on y est autorisé à agir ainsi, et on n'y détermine définitivement le titre de pareils lingots, qu'en les refondant, les brassant avec soin, et en essayant quelques grammes, pris avec une cuiller de fer, immédiatement après le dernier brassage et au moment même de la coulée.

Paris, le 7 Juin 1830. (signé) *D'Arcet* et *Gay-Lussac.*

La présente instruction, rédigée par MM. d'Arcet, directeur des essais, et Gay-Lussac, essayeur du bureau de garantie de Paris, membres de l'Académie royale des sciences, est adoptée par la commission des monnaies, et soumise à l'approbation de S. Exc. le ministre secrétaire d'état des finances, en exécution de l'article 1^er^. de l'ordonnance du 6 Juin 1830.

(signé) C^te^. *De Sussy,* Pair de France, Président.
Paris, le 7 Juin 1830. *Lambert* et *Brunet,* Commissaires Généraux.

Approuvé.
Paris, le 10 Juin 1830.
Le Ministre Secrétaire d'État des Finances,
(signé) *Montbel.*

Pour ampliation.
Le Secrétaire Général des Finances,
(signé) *De Boubers.*

(*a*) Si l'on avait outrepassé le point de saturation, on pourrait cependant se dispenser de recommencer l'opération. Il faudrait employer une dissolution d'argent titrée pour rectifier l'essai. On se propose au reste de publier une description plus détaillée de ce procédé dans Le Manuel de l'Essayeur, dont la commission des monnaies vient de demander la rédaction On y fera connaître diverses manipulations qui peuvent simplifier ce mode d'essai, et particulièrement la substitution des volumes aux poids, qui peut le rendre d'une application plus facile et par conséquent plus fréquente.

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

TABLE DE COMPENSATION pour l'Essai des Matières d'Argent, adoptée au Laboratoire des Essais de la Commission des Monnaies.

Titres exacts.	Titres trouvés par la coupellation.	Pertes ou Quantités de fin à ajouter aux titres correspondans, obtenus par la coupellation.	Titres exacts.	Titres trouvés par la coupellation.	Pertes ou Quantités de fin à ajouter aux titres correspondans, obtenus par la coupellation.
1,000	998 97	1 03	500	495 32	4 68
975	973 24	1 76	475	470 50	4 50
950	947 50	2 50	450	445 69	4 31
925	921 75	3 25	425	420 87	4 13
900	896 —	4 —	400	396 05	3 95
875	870 93	4 07	375	371 39	3 61
850	845 85	4 15	350	346 73	3 27
825	820 78	4 22	325	322 06	2 94
800	795 70	4 30	300	297 40	2 60
775	770 59	4 41	275	272 42	2 58
750	745 48	4 52	250	247 44	2 56
725	720 36	4 64	225	222 45	2 55
700	695 25	4 75	200	197 47	2 53
675	670 27	4 73	175	172 88	2 12
650	645 29	4 71	150	148 30	1 70
625	620 30	4 70	125	123 71	1 29
600	595 32	4 68	100	99 12	0 88
575	570 32	4 68	75	74 34	0 66
550	545 32	4 68	50	49 56	0 44
525	520 32	4 68	25	24 78	0 22

Paris, le 26 Avril 1830.

Le Directeur des Essais, (signé) *D'Arcet.*

Le Vérificateu, (signé) *Bréant.*

Les Essayeurs des Monnaies, (signé) *Chevillot, Chaudet.*

Arrêté par la commission des Monnaies. Le 29 Avril 1830.

Les Commissaires Généraux, (signé) *Lambert, Brunet.*

Le Pair de France Président, (signé) *Cte. De Sussy.*

(H.)

INSTRUCTION sur l'Essai des MATIÈRES d'ARGENT par la Voie Humide; par M. *Gay-Lussac,* Membre de l'Institut de France, Essayeur du Bureau de Garantie de Paris, etc.

AVANT-PROPOS.

C'EST par la coupellation que l'on détermine généralement le titre des matières d'argent. Ce procédé, d'une origine très-ancienne, consiste à tenir l'alliage en fusion avec une certaine dose de plomb dans une coupelle de phosphate de chaux; les métaux oxydables par l'air sont entraînés avec l'oxyde de plomb dans la coupelle, et le poids de l'argent qui résiste à l'oxydation fait connaître le titre de l'alliage. On ne saurait disconvenir qu'une opération qui n'exige au plus que quinze minutes, ne soit d'une élégante simplicité; mais néanmoins on ne peut adopter avec une aveugle confiance les résultats qu'elle donne. La coupellation est en effet soumise à l'influence de circonstances très-variables, particulièrement à celle de la température du fourneau, qu'il n'est pas au pouvoir de l'essayeur de maîtriser entièrement, et il est bien reconnu aujourd'hui qu'elle accuse constamment trop bas le titre de l'alliage: la différence du titre accusé au titre réel s'élève à huit ou dix millièmes pour les essayeurs des différens pays, et les essais d'un même lingot par un essayeur peuvent offrir une discordance de quatre et même de cinq millièmes.

Ces graves défauts de l'essai à la coupelle des matières d'argent n'avaient point échappé à l'habileté de Tillet. Des expériences nombreuses, publiées dans les mémoires de l'académie royale des sciences, années 1761, 1763 et 1769, lui avaient non-seulement appris que la coupellation fait accuser le titre de ces matières de quelques millièmes trop bas; mais encore que la coupelle recèle environ le double de l'argent qui manque, et que par conséquent le bouton d'essai n'est jamais entièrement fin et doit retenir une quantité de plomb et de cuivre égale à celle de l'argent en excès. Tillet, en dénonçant ces faits, manifestait le desir, sans toutefois avoir l'espérance de le voir se réaliser, que la gravité en fût appréciée par les diverses cours de l'Europe, et qu'on s'entendit sur les moyens de rendre le mode d'essai plus uniforme et plus sûr. Mais les expériences de Tillet furent bientôt oubliées; ou plutôt, on craignit de toucher à un procédé d'après lequel se réglaient les transactions en matières d'argent et qui était exécuté presque partout de la même manière. L'on sentit d'ailleurs d'autant moins le besoin de le corriger, qu'aucune plainte ne s'était élevée, et que la perte dans les matières d'argent, causée par une trop faible évaluation de leur titre, circulait inaperçue par le vendeur comme par l'acheteur. C'est ainsi que ce procédé s'est transmis d'une génération à l'autre et a été scrupuleusement conservé dans les hôtels des monnaies et dans les bureaux de garantie par ceux qui en ont été successivement dépositaires.

(B.)
French Mint.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

Cependant les progrès récens de l'art de l'affineur, en permettant de rechercher avec profit un millième d'or dans les matières d'argent, amenaient chaque jour une quantité plus considérable d'argent fin aux hôtels des monnaies. Et comme, à la coupelle, l'argent fin n'éprouvait qu'une perte de titre de 1 à 2 millièmes, tandis que l'argent au titre de 900 millièmes en éprouvait une de 4 à 5, il en résultait qu'un directeur de monnaie qui recevait de l'argent fin pour le convertir en espèces, au titre de 900 millièmes, était obligé de faire son alliage au titre réel de 903 ou 904 millièmes, pour qu'à l'essai, dans le laboratoire de la commission des monnaies, il ressortît à celui de 900. Dès-lors il éprouvait dans sa fabrication une perte de 3 à 4 millièmes dont la cause ne pouvait lui échapper long-temps. Telle est en effet l'origine des plaintes qui ont provoqué un nouvel examen du mode d'essai par la coupelle.

A peine ces plaintes furent-elles connues de la commission des monnaies, présidée par M. le comte de Sussy, pair de France, qu'elles fixèrent sa sollicitude de la manière la plus spéciale (*a*).

M. d'Arcet, membre de l'Institut, directeur des essais, auquel une profonde étude de la coupellation avait fait depuis long-temps connaître les vices de ce procédé, fut chargé d'éclairer la commission, et de nouvelles expériences, faites sous sa direction, constatèrent qu'un alliage par synthèse, au titre mathématique de 900 millièmes, ne sortait de la coupelle qu'à celui de 895 ou 896, d'après le mode d'essai suivi dans le laboratoire des monnaies.

De plus, des alliages connus furent adressés non-seulement aux monnaies les plus importantes d'Europe, mais même aux principaux essayeurs de Paris et des départemens, pour en déterminer le titre, et partout il fut accusé trop bas et d'une quantité très-variable. L'importance du sujet nous engage à insérer ici les titres obtenus par les essayeurs étrangers et par MM. d'Arcet et Vauquelin ; ils sont extraits des documens officiels relatifs à la rectification en France du mode d'essai des matières d'or et d'argent généralement suivi en Europe, publiés par la commission des monnaies.

Essais d'Argent faits par divers Essayeurs.

NOMS DES ESSAYEURS.	Villes où ils se trouvent.	Titres trouvés aux Alliages Mathématiques de		
		950 millièmes.	900 millièmes.	800 millièmes.
F. De Castenholz, essayeur de la monnaie	Vienne	946,20	898,40	795,10
A. R. Vervaëz, essayeur de la monnaie	Madrid	944,40	893,70	789,20
M. Cabrera, essayeur en Espagne	Idem	944,40	893,70	788,60
Bingley, essayeur à la monnaie	Londres	946,25	896,25	794,25
Essayeur	Amsterdam	947,00	895,00	795,00
Essayeur-général des monnaies	Utrecht	945,00	896,50	799,00
Essayeur de la monnaie	Naples	945,00	891,00	787,00
Essayeur du commerce	Idem	941,00	891,00	791,00
Schlabsy, essayeur de la monnaie	Hambourg	946,20	897,57	798,61
Ausborn, essayeur de la monnaie	Altona	942,75	894,00	790,00
D'Arcet, directeur des essais de la monnaie	Paris	948,71	895,65	795,13
Vauquelin, essayeur du bureau de garantie	Idem	945,33	896,00	794,83

Convaincue par des résultats aussi nombreux que le titre des matières d'argent était généralement évalué trop bas, et d'une quantité variable, la commission des monnaies proposa au Ministre des finances de nommer une commission qui serait chargée d'examiner le procédé en usage au laboratoire des monnaies, à Paris, pour l'essai des matières et espèces d'or et d'argent, et d'indiquer les changemens dont le procédé serait susceptible (*b*).

Appelé à faire partie de cette commission, je m'empressai de lui proposer un procédé que j'avais employé, depuis plusieurs années dans mon laboratoire, et que je n'avais pas fait connaître plutôt dans l'ignorance où j'étais des inconvéniens de l'essai à la coupelle. J'avoue cependant qu'il était très-imparfait, et que je dois à M. le comte Chabrol de Volvic, alors préfet du département de la Seine, qui m'avait choisi pour remplacer M. Vauquelin au bureau de garantie de Paris, d'avoir pu le mettre en pratique et le porter au degré de perfection où il est maintenant. Je suis heureux de trouver ici l'occasion de lui en faire hommage et de lui témoigner toute ma reconnaissance. Il ne suffisait pas en effet d'en avoir eu l'idée ; il fallait, et la chose était beaucoup plus difficile, l'approprier aux besoins de l'industrie, et le rendre d'un usage manufacturier.

C'est aussi un devoir pour moi d'offrir mes sentimens de reconnaissance à M. le comte de Sussy, président de la commission des monnaies. Il a pris le plus grand intérêt au nouveau procédé dès son origine, et je dois à ses encouragemens et à ses rapports avec moi pleins de bienveillance d'en avoir entrepris la description ; car j'avouerai sans peine, qu'après l'avoir établi depuis plus de deux ans pour mon usage an bureau de garantie de Paris, et l'avoir

(*a*) La commission des monnaies était alors composée de M. le Comte de Sussy, pair de France, président, et de MM. Brunet et Lambert, commissaires.

(*b*) Cette Commission, nommée le 18 Novembre 1829, était composée de MM. le Comte Chaptal, président, le Baron de Fréville, le Baron Thénard, Dulong, Say, Masson et Gay-Lussac. Son rapport, rédigé par M. Gay-Lussac, a été publié par la commission des monnaies avec les documens officiels relatifs à la rectification en France du mode d'essai des matières d'or et d'argent généralement suivi en Europe.

l'avoir communiqué à tous ceux qui ont désiré le connaître, je me sentais peu disposé à me livrer à la rédaction d'un ouvrage rempli de détails aussi minutieux : peut-être puis-je excuser par là l'imperfection qui y règne et qui n'échappera pas sans doute. Cependant ce retard n'a pas été sans fruit ; il a amené quelques perfectionnemens aux appareils qui ne pouvaient être le résultat que d'une longue expérience.

Le procédé d'essai des matières d'argent dont je vais donner la description, devait faire partie d'une nouvelle édition de l'Art de l'Essayeur de Vauquelin, que nous avions été chargés de publier, M. d'Arcet et moi, par le ministre des finances. Mais ce travail exigeant plus de temps que nos occupations habituelles ne pouvaient nous permettre de lui en consacrer, j'ai été invité à rédiger séparément une instruction sur le nouveau procédé. Je n'aurais pas toutefois cédé à mes regrets, si je n'avais eu la certitude que la publication du travail que nous devions faire en commun n'était que différée.

Nota.—Tous les appareils ou instrumens nécessaires pour l'essai par la voie humide, se trouvent chez M. Collardeau, ancien élève de l'École polytechnique, rue du faubourg St. Martin, No. 56.

ESSAI des Matières d'Argent, par la Voie Humide.

Le nouveau procédé d'essai que nous allons décrire consiste à déterminer le titre des matières d'argent par la quantité d'une dissolution de sel marin titrée, nécessaire pour précipiter exactement l'argent contenu dans un poids donné d'alliage. Ce procédé est fondé sur les principes suivans :

L'alliage, préalablement dissous dans l'acide nitrique, est mêlé avec une dissolution titrée de sel marin qui précipite l'argent à l'état de chlorure ; composé tout-à-fait insoluble dans l'eau et même dans les acides.

La quantité du chlorure d'argent précipité est déterminée, non par son poids, ce qui serait peu sûr et surtout beaucoup trop long, mais par le poids ou le volume de la dissolution titrée de sel marin, nécessaire pour précipiter exactement l'argent dissous dans l'acide nitrique.

On reconnaît facilement le terme de la précipitation complète de l'argent, à la cessation de toute nébulosité, lorsqu'on verse graduellement la dissolution de sel marin dans celle du nitrate d'argent. Un milligramme de métal est rendu très-sensible dans un poids de liquide de cent grammes ; on distingue encore très-bien un demi et même un quart de milligramme, pourvu qu'avant l'addition du sel marin la liqueur soit parfaitement limpide.

En agitant vivement, pendant une minute ou deux au plus, le liquide rendu laiteux par la précipitation du chlorure d'argent, on le clarifie suffisamment pour qu'on puisse apprécier, après quelques instans de repos, le trouble que pourrait y produire l'addition d'un demi-milligramme d'argent. La filtration du liquide est plus efficace que l'agitation, surtout lorsqu'on ne l'emploie qu'après ; on doit s'en servir quelquefois, mais l'agitation, qui est beaucoup plus prompte, suffit généralement. La présence du cuivre, du plomb ou de tout autre métal dans la dissolution de l'argent n'influe pas d'une manière sensible sur la quantité de sel marin nécessaire pour le précipiter, c'est-à-dire que la même quantité d'argent, pur ou allié, exige pour sa précipitation une quantité constante de dissolution de sel marin.

En supposant que l'on opère sur un gramme d'argent pur, la dissolution de sel marin doit être telle qu'il en faille cent grammes si l'on mesure au poids, ou cent centimètres cubes si l'on mesure au volume, pour précipiter exactement tout l'argent. Cette quantité de dissolution de sel marin est divisée en mille parties appelées millièmes.

Le titre d'un alliage d'argent est donné par le nombre de millièmes de dissolution de sel marin nécessaire pour précipiter l'argent contenu dans un gramme de cet alliage.

Voilà en peu de mots la théorie de l'essai par la voie humide ; mais de la théorie à l'application manufacturière de ce procédé, la distance est immense. Il a fallu donner aux manipulations dont il se compose la plus grande simplicité, pour l'opposer à la coupellation. Heureusement toutes les difficultés ont été vaincues, et aujourd'hui, d'après l'expérience que nous avons acquise de ce procédé, nous pouvons le présenter avec confiance comme presqu'aussi rapide et beaucoup plus sûr que la coupellation.

Mesure de la Dissolution de Sel Marin.

Nous désignerons désormais la dissolution de sel marin par le nom de dissolution *normale* de sel marin. On peut la mesurer au poids ou au volume. La mesure au poids offre un peu plus de précision. Elle a surtout l'avantage d'être indépendante de la température ; mais elle demande trop de temps pour des essais nombreux. La mesure au volume donne une exactitude suffisante et exige beaucoup moins de temps que la mesure au poids ; elle est à la vérité soumise à l'influence de la température, mais nous apprendrons à l'en corriger. Au reste, nous décrirons le nouveau procédé en employant chacun de ces deux moyens de mesure.

Mesure de la Dissolution Normale de Sel Marin au Poids.

Cette dissolution doit être telle que 100 grammes précipitent exactement un gramme d'argent pur dissous dans l'acide nitrique. Nous la supposerons faite d'avance, pour indiquer d'abord la manière d'en prendre le poids, et nous dirons ensuite comment on la prépare.

On pèse la dissolution dans une burette (fig 1), de la capacité de 115 à 120 grammes de cette dissolution et divisée en grammes ; ses divisions font connaître approximativement le poids de dissolution qu'on en retire et abrègent beaucoup les pesées (*a*). En faisant écouler la

(*a*) La burette est représentée fermée par un bouchon B de liége, destiné à empêcher l'évaporation de la dissolution dans les intervalles de repos. Il est facile de remédier à l'inconvénient de l'évaporation en rinçant la burette avec la dissolution avant de s'en servir.

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

la dissolution par le bec O de la burette, chaque division fournit 8 à 10 gouttes, et par conséquent le poids d'une goutte est d'environ un décigramme. On emplit la burette de dissolution jusqu'à la première division *o*, et on en fait la tare dans une balance sensible au moins au centigramme. On enlève la burette; l'on met à sa place le poids que l'on veut prendre de dissolution, celui de 100 grammes par exemple, et l'on fait couler la dissolution dans le flacon qui doit la recevoir, jusqu'à ce que l'équilibre soit à-peu-près rétabli. On ne peut en effet l'obtenir exactement, puisqu'on ne peut faire sortir de la burette des quantités de liquide plus petites qu'une goutte, mais cela est indifférent; il suffit que l'on connaisse le poids précis de dissolution sorti de la burette. Supposons qu'il soit de 99 gr 85. Nous allons montrer comment on peut approcher de plus près du poids de 100 grammes de dissolution que l'on désire obtenir.

Il faut remarquer que ce n'est pas l'eau contenue dans ces 100gr qui importe réellement, mais bien le sel qui s'y trouve en dissolution, et qui doit représenter 1000 millièmes d'argent. Si donc nous prenons 100 grammes de dissolution normale, et que nous les mêlions avec 900 grammes d'eau, il est bien évident qu'un gramme de cette nouvelle dissolution équivaudra à un décigramme de la première, et qu'il sera par conséquent facile d'obtenir les 100 grammes de dissolution normale, ou disons mieux les 1000 millièmes de sel marin qu'elle doit contenir; il suffira d'ajouter aux 99gr 85 déjà sortis de la burette, et qui représentent 998,5 millièmes d'argent, un gramme et demi de la nouvelle dissolution. On pourrait la peser comme la dissolution normale, à une goutte près, dans une burette (fig. 2) d'un diamètre assez étroit pour que chaque petite division représente un décigramme de liquide et par conséquent un centigramme de dissolution normale; mais il sera plus commode de la mesurer au volume en la préparant comme nous allons l'indiquer.

Pour éviter toute confusion, nous appellerons dissolution décime de sel marin, une dissolution contenant la même quantité de sel que la dissolution normale, sous un poids ou sous un volume dix fois plus grand.

Une dissolution décime d'argent sera une dissolution d'argent équivalente à cette dernière, toutes deux se décomposant réciproquement d'une manière complète.

Préparation de la Dissolution Décime de Sel Marin.

On pèsera 100gr de dissolution normale de sel marin, dans un matras (fig. 3), contenant un kilogramme d'eau pure jusqu'au trait *a b*, ou mille centimètres cubes, et on complétera ce volume avec de l'eau pure, en ayant soin d'agiter pour rendre le mélange homogène. Un centimètre cube de cette dissolution représentera un millième d'argent. On l'obtiendra facilement au moyen d'une pipette (fig. 4) jaugée de manière que, remplie d'eau jusqu'au trait *c d*, elle en laisse tomber librement un gramme, ou un centimètre cube; ce qui reste de liquide dans la pipette ne fait pas partie du gramme. En faisant écouler le liquide par gouttes, on en comptera un peu plus ou un peu moins de vingt selon la grandeur de l'orifice *o*, et ce nombre ne variera pas de plus d'une goutte. Un demi-centimètre cube sera conséquemment donné par dix gouttes, et un quart par cinq. La précision qu'on obtiendra par ce moyen de mesure sera suffisante, puisque l'erreur possible sur le centimètre cube ne sera que d'un vingtième de cette quantité, ou d'un vingtième de millième, et que, si l'on prend plusieurs mesures, il y aura compensation.

La dissolution décime de sel marin destinée aux essais, doit être mise dans un flacon F d'environ un demi-litre, fermé par un bouchon de liége *b* que traverse la pipette et qui est mastiqué avec. Pour en prendre un millième avec la pipette, on saisit le flacon d'une main et la pipette de l'autre (fig. 5). On sort la pipette de la dissolution après avoir fermé avec l'index son orifice supérieur, et on tient appuyé l'orifice inférieur contre le bord du flacon pour en détacher le liquide qui, sans cette précaution, pourrait y rester adhérent. On élève le trait *c d* à la hauteur de l'œil; puis, par une pression convenable de l'index sur l'orifice supérieur, qui s'obtient en imprimant à la pipette un léger mouvement circulaire alternatif, entre les doigts, on laisse écouler lentement la dissolution; à l'instant du contact de la surface concave du liquide avec le plan *c d*, on ferme exactement la pipette en pressant plus fortement avec l'index sur son orifice, on la porte au-dessus du flacon où la dissolution doit être versée, et l'on soulève l'index pour la vider (*a*).

Préparation de la Dissolution Décime d'Argent.

On prépare la dissolution décime d'argent en dissolvant un gramme d'argent pur par l'acide nitrique, dans un matras d'un litre (fig. 3), et on étend d'eau distillée la dissolution de manière que, refroidie à la température ordinaire de l'air, elle occupe exactement le volume d'un litre. On la mesure de même que la dissolution décime de sel marin.

Pesée de la Dissolution Normale de Sel Marin.

Pour faire cette opération avec célérité, on se sert d'une balance semblable à celle représentée par la fig. 6, qui ne diffère de la balance ordinaire qu'en ce qu'elle peut fonctionner aussi comme une romaine. Chacun de ses bras CB, CB′ est muni d'un petit curseur *c*, en fil de cuivre, d'un poids tel (5 décigrammes environ) que, transporté à droite ou à gauche du milieu *o* de chaque bras, il trouble l'équilibre de deux décigrammes. L'espace parcouru par le curseur est divisé en vingt parties égales qui représentent un égal nombre de centigrammes. Dans la fig. 6, où l'on suppose que la pesée est faite par tare, les divisions de *o* en

(*a*) Il est essentiel de remarquer que l'index, pour permettre un écoulement lent et régulier par sa pression sur l'orifice de la pipette, doit être seulement dans un état de moiteur; trop sec, il ne ferme pas, malgré une forte pression; trop humide, il empêche la rentrée de l'air et l'écoulement n'a pas lieu, ou bien il se fait capricieusement, et l'on s'en rend maître difficilement. On ne perdra pas de vue cette observation, surtout pour les grandes pipettes dont nous parlerons plus tard.

en B sont négatives et marquées du signe —; celles de o en C sont positives et marquées du signe +. Le curseur du bras CB' n'étant destiné qu'à régler la tare, on n'a pas besoin de faire attention au sens des divisions. Le curseur, quand la balance est au repos, est poussé avec une plume ébarbée R qui, étant très-flexible, cède à une légère pression et ne peut troubler la balance (*a*).

Prenons pour exemple une pesée de 100 grammes de dissolution normale de sel marin, la plus fréquente que nous aurons à faire pour déterminer le titre de toute espèce de matières d'argent.

On aura deux poids; l'un P, égal à la tare de la burette, lorsqu'elle est pleine de dissolution jusqu'à la division *o*; l'autre P', de 100 grammes. La burette étant remplie de dissolution, on la place sur le plateau de droite où elle est maintenue par le collet *d e* dans lequel on l'engage avant de la poser sur le plateau. La tare P de la burette est supposée du côté opposé. Si l'équilibre n'a pas lieu, on le complète au moyen du curseur de gauche. On enlève ensuite la burette, on en fait écouler 100 grammes de dissolution, à un ou deux décigrammes près, soit en plus, soit en moins, et on la remet dans la balance avec le poids de 100 grammes P', concave en dessus pour loger le fond de la burette et l'empêcher de glisser. L'équilibre est de nouveau rétabli, au moyen du curseur de droite. Si, par exemple, il a fallu faire marcher le curseur vers B, de quinze divisions, qui représentent 15 centigrammes, le poids de la dissolution sortie de la burette sera égal à $100^{gr}\ 00 - 0^{gr}\ 15 = 99^{gr}\ 85$. Si, au contraire, le curseur a marché de six divisions vers C, le poids de la dissolution sera de $100^{gr}\ 00 + 0^{gr}\ 06 = 100^{gr}\ 06$.

Le moyen que nous venons de décrire pour peser la dissolution de sel marin nous paraît un des plus commodes que l'on puisse employer, quoiqu'il ne soit pas très-expéditif. Nous pourrions en indiquer d'autres qui mériteraient sans doute la préférence, mais n'auraient pas la même généralité; et pour ne pas nous écarter trop de notre objet, nous en donnerons la description dans un appendice.

Préparation de la Dissolution Normale de Sel Marin, en la Mesurant au Poids.

Après avoir indiqué la manière de peser la dissolution normale de sel marin et d'en prendre de très-petites quantités, nous en décrirons la préparation.

En supposant le sel marin pur, ainsi que l'eau, on n'aura qu'à prendre ces deux corps dans le rapport de $0^{k}\ 5427$ de sel à $99^{k}\ 4573$ d'eau pour avoir 100^{k} de dissolution, dont 100 grammes précipiteraient exactement un gramme d'argent. Mais au lieu de sel pur qu'on ne se procure que difficilement, et qui, d'ailleurs, peut s'altérer promptement en absorbant l'humidité de l'air, nous préférons une dissolution concentrée de sel marin du commerce, dont on prépare une grande quantité à la fois, et que l'on tient en réserve pour s'en servir au besoin. On connaît la quantité de sel qu'elle renferme en en évaporant une portion à siccité, et par quelques tâtonnemens on détermine aisément dans quel rapport elle doit être mêlée avec l'eau commune pour l'amener à précipiter exactement un gramme d'argent sous le poids de 100 grammes. Supposons, par exemple, que la dissolution de sel marin contienne 250 grammes de sel par kilogramme, et que l'on veuille préparer 100 kilogrammes de dissolution normale. Puisqu'il faudrait, pour cette quantité, $0^{k}\ 5427$ de sel pur, on fera la proportion :

$$0^{k}\ 250 : 1^{k} :: 0^{k}\ 5427 : x = 2^{k}\ 1708.$$

A ce dernier poids on ajoutera assez d'eau pour faire 100 kilogrammes, savoir : $97^{k}\ 8292$ (*b*.) On agitera parfaitement le mélange (*c*), puis on procédera à l'essai de la dissolution.

Pour cela, après avoir dissous un gramme d'argent dans sept à huit grammes d'acide nitrique à 32° B (1,290) dans un flacon à l'émeri, fig. 8, de la capacité d'environ 200 grammes d'eau, on fera la tare de la burette, fig. 1, remplie de dissolution, on en versera plutôt plus que moins dans le flacon, attendu que le sel dont on s'est servi pour faire la dissolution n'est pas pur, et qu'il en faudra, par conséquent, plus de 100 grammes pour précipiter le gramme d'argent. Le mélange sera d'abord laiteux; mais en agitant vivement, pendant environ une minute, le flacon fermé avec son bouchon qu'on aura trempé dans l'eau pour que la fermeture soit plus exacte, et en l'abandonnant quelques instans au repos, la liqueur deviendra parfaitement claire. On y versera alors de la burette deux gouttes de dissolution, et s'il se produit un trouble, on agitera pour éclaircir et on ajoutera deux autres gouttes. On continuera ainsi jusqu'à ce que les deux dernières gouttes ajoutées ne précipitent plus. L'opération sera alors terminée, et il ne restera qu'à en fixer les résultats.

Supposons que le poids total de la dissolution normale sortie de la burette soit de $101^{gr}\ 880$. Les deux dernières gouttes ne doivent pas être comptées, puisqu'elles n'ont produit aucun effet; les deux gouttes précédentes sont nécessaires, mais en partie seulement, c'est-à-dire que le nombre de gouttes à retrancher est plus petit que quatre et plus grand que deux; ou bien qu'il est, terme moyen, de trois. Or le poids d'une goutte peut être connu très-exactement en prenant celui d'une dizaine; supposons le égal à $0^{gr}\ 085$; on retranchera

(*a*) Si l'on faisait construire une balance à dessein, les divisions seraient tracées sur le fléau; mais on peut, ainsi que nous l'avons fait pour notre usage, transformer une balance ordinaire en balance romaine, en traçant les divisions sur une règle qui serait soutenue près du fléau.

(*b*) On mesurera facilement cette quantité d'eau au moyen d'un flacon de la capacité de 5 à 6 kilogrammes d'eau qu'on aura jaugé d'avance.

(*c*) L'agitateur, fig. 7, dont on se sert pour agiter le mélange, est une tige de jonc fendue en quatre branches, aux extrémités desquelles est attaché un petit carré d'étoffe de soie. On emploie la soie pour éviter les filamens que pourrait donner toute autre étoffe. Cet agitateur peut être introduit par de très-petites ouvertures et servir à agiter de grandes masses de liquide. Une baguette de bois ou des fils de fer peuvent remplacer la tige de jonc.

(B.) FRENCH MINT.

Appendix, No. 31. Communication from M. Thiers to Earl Granville.

retranchera trois fois ce nombre ou 0gr 255 de 101gr 880, et il restera 101gr 625 pour la quantité de dissolution normale nécessaire pour précipiter un gramme d'argent.

La dissolution est donc beaucoup trop faible. Pour l'amener à son véritable titre, il faudrait, pour un poids de 101gr 625, en retrancher 1gr 625 d'eau, ou, ce qui revient au même, ajouter à la dissolution normale une certaine quantité de dissolution concentrée de sel marin que l'on trouvera par la proportion suivante :

100 : 1,625 : : 2k 1,708 de dissolution saline : x = 0,k 0353.

Après l'addition de cette quantité de sel à la dissolution normale, on en fera un nouvel essai, en opérant comme pour le précédent ; mais on aura soin de ne verser de la burette qu'un poids de dissolution un peu inférieur à 100gr ou 1000dec ; par exemple 998dec 4, parce qu'il ne serait pas possible, en versant la dissolution par gouttes, de tomber exactement sur le poids 1000dec. Pour approcher du véritable titre, qui maintenant doit être exact à peu de chose près, on préparera une dissolution décime en pesant 100gr de dissolution normale qu'on étendra d'eau pure de manière qu'ils occupent un litre ; un centimètre cube de cette dissolution représentera un décigramme de dissolution normale (*a*). On continuera ensuite l'essai de la manière suivante, en se rappelant que la pipette décrite fig. 4, d'un centimètre cube, contient 20 gouttes ; que la moitié sera donnée par 10 gouttes et le quart par 5.

Aux 998dec 4 de dissolution normale déjà versés, on ajoutera une pipette et douze gouttes de dissolution décime ; ce qui complétera le poids exact de 1000 décigrammes de dissolution normale. On agitera le mélange pour l'éclaircir, puis on y versera un millième de sel marin ou une pipette de dissolution décime. S'il se trouble, on agitera, et après on ajoutera un second millième. Ce dernier, par supposition, ne produira pas d'opalescence. Le poids de dissolution normale nécessaire pour précipiter exactement un gramme d'argent sera, par conséquent, compris entre 1000 et 1001 décigrammes, c'est-à-dire qu'il sera, terme moyen, égal à 1000 ½. Le titre de la dissolution normale est donc trop faible de ½ millième ; et pour le corriger, on ajoutera une quantité de dissolution concentrée de sel marin égale à ½ millième de celle qui a déjà été ajoutée (2k, 1708 + 0k, 0353 = 2k, 2061), savoir 1gr 1. On procédera ensuite à un nouvel essai de la dissolution normale pour en faire la vérification.

Quand on doit approcher de très-près du titre d'un dissolution, on fera bien d'employer la filtration pour distinguer la plus légère opalescence, à moins qu'on ne donne à la liqueur le temps de s'éclaircir parfaitement. Une plus grande précision que celle d'un quart de millième est d'ailleurs illusoire, et les balances d'essai ont de la peine à y atteindre. Le plus sûr, lorsqu'on est très-près du titre, sera de mettre de la liqueur dans deux verres à pied et de verser dans l'un quelques gouttes de dissolution décime de sel marin et dans l'autre un nombre correspondant de gouttes de dissolution décime de nitrate d'argent. On juge de quel côté se manifeste l'opalescence (*b*), et l'on continue l'essai de la dissolution normale, après avoir réuni les liqueurs des deux verres, puisque les deux quantités des dissolutions décimes de sel marin et d'argent, se détruisant réciproquement, ne changeront rien à l'essai. Une fois que le titre de la dissolution normale sera définitivement fixé, on fera la somme de toutes les quantités de dissolution concentrée de sel marin qui auront été employées, ainsi que celles d'eau, et, dans la préparation d'une nouvelle dissolution normale, on n'aura qu'à les mêler dans le rapport trouvé, pour tomber de suite, ou à très-peu près, sur son véritable titre.

En fixant le titre de la dissolution normale, nous avons supposé qu'il était constamment trop faible, et il a fallu ajouter à la dissolution une certaine quantité de sel marin ; mais si on l'eût outre-passé, et qu'il se fût trouvé trop fort, la dissolution aurait précipité avec la dissolution décime d'argent, et l'on eût connu par le nombre de centimètres cubes ou de millièmes d'argent qui auraient été nécessaires pour précipiter l'excès de sel marin, quelle quantité d'eau il aurait fallu ajouter à la dissolution normale pour l'amener au titre. Par exemple, si elle eût exigé 2 millièmes de dissolution décime d'argent, on aurait à ajouter au poids total de la dissolution normale deux millièmes de ce poids en eau, savoir : 0k, 2 ou 200 grammes.

Conservation de la Dissolution Normale de Sel Marin.

Le vase le plus convenable pour conserver la dissolution normale de sel marin est un vase en verre, parce qu'il ne peut en altérer le titre. On trouve dans le commerce des bouteilles en verre noir, appellées *dames-jeannes*, qui contiennent de 50 à 60 litres ; on peut les employer avec succès. La figure 9 représente une de ces bouteilles fixée sur un socle formé par un cerceau de tamis. Elle est jaugée en litres ou kilogrammes d'eau, et une échelle en papier, appliquée sur sa surface, fait connaître à chaque instant la quantité de liquide qu'elle renferme. Elle est fermée par une soupape hydraulique en tôle, mais dont la cloche ou couvercle est en verre. On voit le détail de cette soupape dans la figure 10. L'air ne peut entrer dans la bouteille que par le tube droit T, et ne peut ensuite en sortir ; conséquemment aucune

(*a*) Cette dissolution décime ne sera pas rigoureusement exacte, puisque la dissolution normale n'est pas à son véritable titre ; mais il est aisé de sentir que l'erreur que l'on commettra en en faisant usage sera très-petite, et qu'elle pourrait être négligée. Néanmoins, aussitôt que la dissolution normale sera parfaitement titrée, on devra préparer une autre dissolution décime.

On parviendrait à obtenir immédiatement une dissolution décime en dissolvant, 0gr 5427 de sel marin pur dans l'eau de manière que la dissolution occupât exactement un litre ; mais le premier procédé sera préférable.

(*b*) Il est à remarquer que, lorsque la dissolution normale est parfaitement au titre, elle louchi très-légèrement, soit avec le nitrate d'argent, soit avec le sel marin.

(B.)
FRENCH MINT.
Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

aucune évaporation n'est à craindre. La gorge de la soupape doit avoir environ un décimètre de profondeur; on y met du mercure, mais seulement jusqu'au tiers de sa hauteur, parce que, d'une part l'immersion de la cloche, et de l'autre la pression de l'air, plus grande à l'extérieur qu'à l'intérieur, de toute la profondeur du tube T dans le liquide quand l'air entre dans la bouteille, y ferait déverser le mercure.

La dissolution est puissée dans la bouteille par un syphon S à robinet; mais ce syphon étant fragile, à moins qu'il ne soit en métal, et peu commode à manier, puisqu'il fait corps avec la cloche de la soupape, il sera préférable de percer le fond de la bouteille, fig. 11, et d'y adapter un tube en métal T par le moyen d'une plaque modelée sur le fond et mastiquée avec. Ce tube, qui s'élève un peu au-dessus du fond de la bouteille, porte un petit chapeau pour empêcher le mercure qui pourrait tomber dans la bouteille de s'y introduire. Il est terminé à son autre extrémité par un tube plus étroit, afin que l'écoulement de la dissolution ne soit jamais trop rapide. Nous décrirons plus tard un réservoir en métal qui aura les avantages d'un vase en verre sans en avoir les inconvéniens.

Application du Procédé qui vient d'être Décrit à la Détermination du Titre d'un Alliage d'Argent.

Cet alliage est supposé celui de nos monnaies, dont le titre moyen fixé à 900 millièmes, mais qui peut varier de 897 à 903 millièmes sans cesser d'être légal. On en prend un gramme que l'on dissout dans un flacon, fig. 8, avec environ 10 grammes d'acide nitrique à 32° B (*a*), et pour favoriser la dissolution, le flacon est chauffé avec un peu d'eau dans une casserole sur le fond de laquelle on a mis de la toile pour l'isoler du métal. La dissolution terminée, et le flacon un peu refroidi, on expulse la vapeur nitreuse au moyen d'un soufflet, fig. 13, dont la buse est formée d'un tube de verre recourbé, réuni par un bouchon de liége à la douille en cuivre D taraudée intérieurement. Cette opération doit être faite, ainsi que la dissolution de l'alliage dans l'acide nitrique, sous une cheminée dont le courant d'air soit assez fort pour entraîner la vapeur nitreuse.

La burette, fig. 1, étant remplie de dissolution normale de sel marin et tarée, on en fait couler environ 90 grammes dans la dissolution de l'alliage; soit 89gr 85. Après l'agitation de la liqueur, on y versera un centimètre cube de dissolution décime de sel marin, représentant un millième d'argent. S'il y a trouble, on agitera, puis on ajoutera un second millième de sel marin, et ainsi de suite, jusqu'à ce qu'on soit arrivé au millième ne précipitant plus. Supposons que ce soit le quatrième. On ne le comptera pas, puisqu'il n'a rien produit, et on ne prendra que la moitié du troisième qui n'a été nécessaire qu'en partie. Le titre de l'alliage sera conséquemment égal, à un demi-millième près, à 898,5 + 2,5 = 901.

Si l'on veut approcher de plus près du titre de l'alliage, on procédera par demi-millièmes, dès que l'on sera arrivé au dernier millième ne précipitant plus; et pour éviter toute confusion, on écrira avec de la craie, sur une planche noire, les millièmes de sel marin en les faisant précéder du signe + plus, et à côté les millièmes de nitrate d'argent précédés du signe — moins.

Dans notre exemple, après l'addition de 4 millièmes de sel marin, dont le dernier n'a produit aucun trouble, on ajoutera 1 ½ millièmes de nitrate d'argent, qui détruiront 1 ½ millièmes de sel marin, et on fera éclaircir la liqueur. Si un nouveau ½ millième de nitrate d'argent ne produit pas de précipité, on n'en tiendra pas compte et on le barrera dans le tableau. De-là on conclura que la quantité de nitrate d'argent nécessaire pour détruire l'excès de sel marin est plus grande que 1 millième et plus petite que 1 ½; c'est-à-dire, qu'à ¼ de millième près, elle est égale à 1 ¼. Ainsi, le nombre de millièmes de sel marin réellement utile est 4 — 1,25 = 2,75. Le titre de l'alliage est conséquemment 898,50 + 2,75 = 901,25.

Autre exemple. Tout reste de même que précédemment, mais le premier millième de sel ne précipite pas. C'est une preuve que l'on a pris trop de dissolution normale, et qu'il y a excès de sel dans la liqueur. On ajoute un millième d'argent et on agite; les choses sont ramenées au même point que d'abord, mais on sait maintenant que c'est avec le nitrate d'argent qu'il faut procéder. On en ajoute un millième qui précipite; le suivant ne fait rien. Le titre de l'alliage est par conséquent égal à 898, 5 — 0,5 = 898,0. Pour approcher de plus près du titre, on détruit les deux derniers millièmes d'argent par deux millièmes de sel, et on ajoute un demi-millième d'argent; il se produit un trouble, on le savait déjà; mais un autre demi-millième ne précipite plus. Le titre de l'alliage est donc de 898,50 — 0,25 = 898,25.

Ce procédé, sur lequel nous croyons inutile de nous étendre davantage en ce moment, parce qu'on pourra lui appliquer plusieurs parties du procédé qu'il nous reste à décrire, est général et donne exactement le titre d'un alliage quand on le connait approximativement, ce qui a toujours lieu par un premier essai fait grossièrement.

ESSAI par la Voie Humide, en mesurant au Volume la Dissolution Normale de SEL MARIN.

LA mesure au poids de la dissolution normale de sel marin a, comme nous l'avons déjà dit, l'avantage d'être indépendante de la température, d'avoir le même degré de précision que la balance, et de n'avoir besoin d'aucune correction. A part l'inconvénient d'exiger un peu

(*a*) On prend facilement cette quantité d'acide nitrique, au moyen d'une pipette P, fig. 12, qui contient, 7,7 grammes d'eau jusqu'au trait *a b*, et dont la tige est assez étroite pour qu'on puisse en négliger la capacité.

(B.)
French Mint.
Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

peu trop de temps pour la pesée, inconvénient que l'expérience et surtout l'habileté dans les manipulations peuvent cependant beaucoup diminuer, nous n'hésiterions pas à lui donner la préférence. La mesure au volume n'a pas tous ces avantages, mais en donnant une précision suffisante elle a celui d'être plus rapide et de rendre le nouveau procédé applicable à des essais nombreux et journaliers.

La dissolution normale de sel marin, mesurée au volume, est préparée de manière qu'il en faut un volume égal à celui de 100 gr. d'eau, ou de cent centimètres cubes, à une température déterminée, pour précipiter exactement une gramme d'argent. La dissolution peut être maintenue à une température constante, et dans ce cas l'essai ne comporte aucune correction, ou bien sa température est variable, et il faut alors corriger l'essai de son influence. Ces deux circonstances ne changent rien au fond du procédé, mais elles sont assez importantes pour apporter quelques modifications dans les appareils et exiger que nous traitions séparément de chacun des deux procédés : l'un où la température de la dissolution normale est maintenue constante, l'autre où elle est variable. Cependant notre expérience nous ayant fait donner la préférence au dernier, nous nous attacherons d'abord à le faire connaître ; l'autre sera décrit plus tard dans l'appendice.

Moyens de Mesure en employant les Volumes au lieu des Poids.

Nous admettrons, pour exposer les moyens de mesurer au volume la dissolution normale de sel marin, qu'elle est préparée d'avance, et que même elle conserve une température constante. Il nous sera ensuite facile d'en donner la préparation et d'indiquer les corrections dont elle est susceptible lorsque sa température varie.

On obtient facilement un volume de dissolution de cent centimètres cubes au moyen d'une pipette, fig. 14, jaugée de manière que, remplie d'eau jusqu'au trait *a b*, et bien essuyée à sa pointe, elle laisse écouler d'un jet continu 100 grammes d'eau à la température de 15° (*a*). Nous disons expressément d'un jet continu, parce que, quelque temps après la cessation du jet, la pipette fournit encore deux à trois gouttes de liquide qui ne doivent pas être comptées. Le poids du volume de dissolution normale, pris de cette manière avec les soins convenables, sera constant d'un extrême à l'autre, à deux centigrammes et demi, au plus, ou à un quart de millième, et la différence, autour de la moyenne, sera par conséquent deux fois plus petite. Indiquons la manière la plus simple de prendre une mesure de dissolution normale de sel marin.

Après avoir immergé le bec *c* de la pipette dans la dissolution, on aspire avec la bouche à l'orifice supérieur, et on élève le liquide jusqu'en *d* au-dessus du trait circulaire *a b*. On applique adroitement l'index de l'une des mains sur cet orifice, on sort la pipette du liquide et on la saisit de la manière représentée par la figure 15. Le trait *a b* est tenu à la hauteur de l'œil, et l'on amène la surface de la dissolution à être exactement tangente au plan *a b*. A l'instant même de la tangence, on laisse libre le bec *c* de la pipette, en éloignant le doigt contre lequel il était appuyé, et sans rien changer d'ailleurs à la position des mains, on la vide dans le flacon qui doit recevoir la dissolution, ayant soin de l'enlever aussitôt que le jet s'arrête.

Si, après avoir rempli la pipette par aspiration, on trouvait trop difficile d'appliquer assez rapidement l'index sur l'orifice supérieur, pour ne pas donner au liquide le temps de se précipiter au-dessous de *a b*, on sortirait la pipette de la dissolution, son orifice fermé par la langue ; on appliquerait le doigt du milieu de l'une des mains sur l'orifice inférieur ; on retirerait la langue, et on appliquerait l'index de l'autre main sur l'orifice préalablement essuyé.

Le procédé que nous venons de décrire, pour obtenir une mesure de dissolution normale de sel marin, est d'une très-grande simplicité, puisqu'il n'exige aucun appareil particulier ; mais nous en indiquerons un autre d'une manipulation plus facile, et qui est en même temps plus sûr.

Dans ce procédé, la pipette est remplie par le haut comme une bouteille, au lieu de l'être par aspiration, et de plus elle est entièrement fixe. La figure 16 représente l'appareil. D et D′ sont deux douilles séparées par un robinet R. La supérieure, taraudée intérieurement, reçoit par l'intermédiaire d'un bouchon de liége L le tube T qui amène la dissolution de sel marin. La douille inférieure est mastiquée avec la pipette ; elle porte un robinet à air R′ et une vis V qui règle une petite ouverture destinée à laisser rentrer l'air très-lentement dans la pipette. Au-dessous du robinet R′, un tube d'argent N d'un étroit diamètre, soudé à la douille, conduit la dissolution dans la pipette, en permettant à l'air qu'elle déplace de s'échapper par le robinet R′. La vis à bouton V′ remplace la vis ordinaire par laquelle on fait presser plus ou moins la clé du robinet sur son boisseau.

La figure 17 représente, vu sur une autre face, l'appareil qu'on vient de décrire. On y remarque au robinet à air R′, une embouchure *m*, dans laquelle entre à frottement, par son extrémité Q, le tuyau conique T, même figure. C'est par ce tuyau qu'on aspire l'air de la pipette, quand on veut la remplir par le bas.

La pipette est portée par deux bras horizontaux H, K, fig. 18, mobiles autour d'un axe commun A, A, et pouvant s'alonger ou se raccourcir par le moyen de deux fentes longitudinales. Ils sont fixés à demeure par deux écrous *e*, *e′*, et leur distance peut varier au moyen de

(*a*) Il est indifférent que la pipette soit exactement de 100 centimètres cubes : il n'est même pas nécessaire que les instrumens de différens opérateurs soient comparables entre eux ; mais il faut que ceux du même le soient Nous adoptons la température de 15° comme étant la plus ordinaire dans nos climats.

de rondelles de bois ou de liége, interposées, ou même par des contre-écrous *o*, *o'*. Le bras supérieur H est percé d'un trou dans lequel est fixée, par la pression d'une vis en bois *v*, la douille de la pipette. Le trou correspondant du bras inférieur est plus large; le bec de la pipette y est maintenu par un bouchon de liége L. L'appareil est fixé par son appendice P, au moyen de vis, sur un angle de mur, ou sur tout autre appui.

La manière de remplir la pipette est très-simple. On commence par appliquer l'index de la main gauche sur l'orifice inférieur *c*; puis on ouvre les deux robinets R et R'. Lorsque le liquide approche du col de la pipette, on en modère l'arrivée, et aussitôt qu'il s'est élevé de quelques millimètres au-dessus du trait *a b*, on ferme les deux robinets et on ôte l'index. Il ne s'agit plus maintenant que de régler la pipette, et pour y parvenir, il faut que le liquide touche le trait *a b*, et qu'il n'en reste pas d'adhérent extérieurement au bec de la pipette.

Cette dernière condition est facile à remplir. Après avoir ôté le doigt qui fermait l'orifice *c* de la pipette, on applique contre cet orifice une éponge humide *m*, fig. 19, enveloppée d'un linge, qui absorbe, à mesure qu'il s'écoule, le liquide excédant. Pour abréger, nous donnerons à cette éponge le nom de mouchoir. La pipette sera dite mouchée lorsqu'il ne restera pas de liquide adhérent extérieurement à son orifice.

Pour la commodité de l'opération, le mouchoir est placé à frottement dans un tube de fer-blanc, terminé par un godet, et ouvert dans le bas, pour laisser écouler dans la cuvette C, sur laquelle le tube est soudé, le liquide que le mouchoir ne peut conserver. On l'enlève facilement pour le laver; et, s'il est nécessaire, un petit coin de bois *o* le fait avancer vers la pipette (*a*).

Il ne reste plus, pour achever de régler la pipette, qu'à faire descendre le liquide jusqu'au niveau *a b*. Pour cela, et pendant que le mouchoir est appliqué contre le bec de la pipette, on y laisse entrer l'air très-lentement en desserrant la vis V, fig. 18, et à l'instant de la tangence, on enlève le mouchoir et on place sous l'orifice de la pipette le flacon F, fig. 19, destiné à recevoir la dissolution. Le mouvement devant être fait rapidement et sans hésitation, le flacon est logé dans un cylindre en fer-blanc, d'un diamètre tant soit peu plus grand, et faisant corps avec la cuvette et le mouchoir. Tout cet appareil a pour base une plaque en fer-blanc, mobile entre deux règles en bois, R, R, dont l'une porte une rainure sous laquelle s'engage le bord de la plaque. Ses excursions sont fixées par deux buttoirs *b*, *b*, placés de telle sorte que, lorsqu'il est arrêté par l'un d'eux, le bec de la pipette correspond au centre du col du flacon, ou bien est tangent au mouchoir. Cette disposition, très-commode pour moucher la pipette et la vider, donne à l'appareil une solidité suffisante et permet de l'enlever et de le replacer sans rien déranger. On comprendra sans peine qu'il est avantageux, une fois qu'on aura réglé la rentrée de l'air dans la pipette par la vis V, de la laisser constamment libre, parce que le mouvement, du mouchoir au flacon, s'exécute assez rapidement pour qu'une goutte de dissolution n'ait pas le temps de se former et de se détacher.

Température de la Dissolution.

Après avoir décrit la manière de mesurer en volume la dissolution normale de sel marin, nous indiquerons le moyen qui nous a paru le plus convenable pour en prendre la température.

Le thermomètre est placé dans un tube en verre T, fig. 21, que traverse la dissolution pour arriver à la pipette. Il y est suspendu par un liége échancré en quatre endroits pour donner passage au liquide. L'échelle est gravée sur le tube même, et se répète à l'opposé pour fixer l'œil, par la coïncidence de cette double division, à la hauteur de la colonne thermométrique. Le tube est soudé inférieurement à un autre plus étroit par lequel il s'engage au moyen d'un bouchon de liége B', dans la douille du robinet de la pipette. Dans sa partie supérieure, il est mastiqué avec une douille en cuivre taraudée intérieurement, laquelle se lie à son tour par un bouchon de liége B, avec l'extrémité aussi taraudée du tube T', appartenant au reservoir de la dissolution normale. Les bouchons de liége, employés ici comme liens entre les parties des appareils, leur conservent une certaine flexibilité, et permettent de les démonter et de les rétablir en très-peu de temps; mais il est essentiel de les faire traverser par un tube creux de verre ou de métal qui les empêche de s'affaisser sous la pression qu'on leur fait supporter. Si l'on a soin de les enduire d'un peu de suif et de boucher leurs pores, ils ne présenteront aucune fuite.

Conservation de la Dissolution Normale de Sel Marin dans des Vases Métalliques.

Nous nous sommes déjà occupés de cet objet et il semble que nous pourrions nous dispenser d'en parler de nouveau; mais ici il va être question de vases métalliques, et quelques détails sont nécessaires.

La figure 22 répresente un vase cylindrique en cuivre C, de la capacité d'environ 110 litres; on en voit la coupe Z à côté, même figure. A sa base, est soudée une douille D, à laquelle

(*a*) Plus tard nous avons préféré de faire le mouchoir de la manière suivante: sur un fil de fer double, fig. 20, faisant ressort, on roule une petite bande de toile *t*; le fil de fer est fixé avec du mastic dans un cylindre en fer blanc fermé inférieurement et portant supérieurement un rebord ou chapeau pour écarter le liquide qui coule du mouchoir dans la cuvette. Ce cylindre entre dans un autre cylindre soudé sur le fond de la cuvette, et il y conserve une position fixe au moyen de deux oreilles *o* qui s'engagent dans deux échancrures pratiquées dans l'autre cylindre. Le cylindre intérieur n'est pas entièrement enfoncé dans la figure pour laisser apercevoir l'oreille *o*.

(B.)
French Mint.
Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

laquelle s'adapte le tube à robinet T, par lequel la dissolution arrive dans la pipette. Le fond supérieur, qui est légèrement concave, présente une ouverture fermée par un bouchon à vis B, dont le bord presse sur un cuir. Ce bouchon est traversé par un tube *t*, qui arrive près du fond du vase, et par lequel l'air entre dans l'appareil, sans pouvoir en sortir; en sorte qu'il ne peut se faire aucune évaporation. Ce tube peut être fermé par un bouchon *m*, quand on ne se sert pas de l'appareil.

La quantité de liquide contenue dans le vase peut être connue à chaque instant au moyen d'une jauge en bois J, graduée en litres, qu'on plonge verticalement dans le liquide, mais l'emploi en est peu fréquent. En effet, on mesure plus exactement l'eau que l'on introduit dans le cylindre avec un flacon d'une capacité connue qu'avec la jauge, et l'on est averti à temps du moment où le liquide tire à sa fin, par le bruit que fait l'air en entrant dans le cylindre par le tube, et qui cesse dès que l'orifice du tube n'est plus immergé. Mais pour n'être pas pris au dépourvu, on fera bien de laisser au-dessous de l'orifice du tube une quantité de dissolution suffisante pour les essais d'une journée (*a*).

Le cuivre pur ou étamé s'altère par le contact de la dissolution de sel marin et de l'air, et la dissolution va continuellement s'affaiblissant. On remédie à cet inconvénient en enduisant intérieurement le cylindre de mastic de fontainier, rendu un peu plus ductile par l'addition d'un tiers de son poids de cire jaune. Pour faire cette opération, on enlève les tubes T et *t*, et on dessèche parfaitement le cylindre en le chauffant et soufflant dedans. On y coule ensuite un mélange très-chaud de 1 ½ᵏ de mastic de fontainier et ½ᵏ de cire jaune; on promène le mastic sur les deux fonds, puis on couche le cylindre bien horizontalement, et on le fait tourner jusqu'à ce qu'il soit refroidi. Le mastic adhère intimement au cuivre, et un usage de près d'un an n'y a fait encore découvrir aucun inconvénient (*b*).

Toutes les parties que nous venons décrire, réunies ensemble dans la fig. 22, forment l'appareil complet pour conserver la dissolution normale de sel marin, en prendre la température et la mesurer au volume.

Préparation de la Dissolution Normale de Sel Marin en la mesurant au Volume.

La préparation de la dissolution normale de sel marin, mesurée au volume, se fait comme celle de la dissolution mesurée au poids. Nous n'aurons par conséquent que peu à ajouter à ce que nous avons déjà dit page 147 et nous y renvoyons le lecteur.

Le cylindre, comme nous l'avons supposé, pouvant contenir environ 110 kilogrammes d'eau, on n'y en mettra que 105, afin qu'il reste un espace vide suffisant pour agiter la liqueur sans la faire sortir du vase. D'après la condition que l'on s'impose, que 100 centimètres cubes ou 1/10 de litre de dissolution doivent contenir assez de sel marin pour précipiter un gramme d'argent pur, et admettant de plus 13,516 pour l'équivalent de l'argent, et 7,335 pour celui du sel marin, on trouvera la quantité de sel pur qu'il faut dissoudre dans les 105 litres d'eau, et qui correspond à 105 + 10 = 1050 grammes d'argent, en faisant la proportion.

$$13{,}516 : 7{,}335 :: 1050 \text{ gram.} : x = 569^{gr}\,83.$$

Et comme la dissolution de sel marin du commerce, dont nous nous sommes servi, page 147, en contient approximativement 250 grammes par kilogramme, on trouvera qu'il faut prendre 2279,3 grammes de cette dissolution pour avoir 569,83 gr. de sel (*c*). Le mélange étant parfaitement opéré, on lavera plusieurs fois les tubes et la pipette en y faisant couler de la dissolution qu'on remettra dans le cylindre: on agitera de nouveau après chague lavage, et enfin on déterminera le titre de la dissolution, la température étant supposée rester constante.

Pour y parvenir plus commodément, on commencera par préparer deux dissolutions décimes, l'une d'argent, l'autre de sel marin.

La dissolution décime d'argent, ainsi que nous l'avons déjà dit, s'obtient en dissolvant un gramme d'argent dans l'acide nitrique et étendant d'eau la dissolution jusqu'au volume d'un litre.

La dissolution décime de sel marin pourrait être obtenue en dissolvant 0,543 grammes de sel marin pur dans l'eau, de manière que la dissolution occupât un litre, mais nous la préparerons avec la dissolution normale même qu'il s'agit de titrer, en mêlant une mesure de cette dernière avec neuf mesures d'eau; bien entendu que cette dissolution n'est point rigoureusement équivalente à celle d'argent, et qu'elle ne le deviendra que lorsque la dissolution normale employée à sa préparation sera finalement au véritable titre (*d*). Enfin on préparera

(*a*) Nous avons d'abord employé un tube indicateur en verre, communiquant avec le haut et le bas du cylindre; mais nous y avons renoncé. La fermeture de l'appareil en est beaucoup plus exacte.

(*b*) Nous ferons néanmoins la remarque importante que l'on doit procéder de temps en temps à l'épreuve de la dissolution normale de sel marin, et faire, s'il y a lieu, la correction nécessaire au titre de l'alliage, après l'avoir déterminé comme si la dissolution n'eût pas varié.

(*c*) Les 2279,3 grammes de dissolution en contenant 569,83 de sel et par conséquent 1709,5 d'eau, il faudra tenir compte de cette eau dans les 105 litres, c'est-à-dire n'en mettre que 103,3, environ.

(*d*) Quoique la dissolution normale de sel marin ne soit pas à son vrai titre, on peut s'en servir pour préparer une dissolution décime. En effet, supposons-la exacte à 10 millièmes près ou un centième; la dissolution décime sera exacte au même degré. Si l'on emploie 10 millièmes de cette dernière dissolution, l'erreur commise sera de 1/10 de millième, et seulement de 1/100 lorsqu'on n'emploiera que 1 millième. De pareilles erreurs peuvent être entièrement négligées; néanmoins, après

(B.)
FRENCH MINT.

préparera d'avance plusieurs flacons, fig. 8, dans chacun desquels on dissoudra 1 gramme d'argent avec 8 ou 10 grammes d'acide nitrique. Pour abréger nous leur donnerons le nom de témoins.

Appendix, No. 31. Communication from M. Thiers to Earl Granville.

Maintenant, pour explorer le titre de la dissolution normale, on en versera une pipette dans un flacon témoin, et on agitera vivement la liqueur pour l'éclaircir. Après quelques instans de repos, on y versera deux millièmes de dissolution décime de sel marin, qui, par supposition, produiront un précipité. La liqueur normale est par conséquent trop faible, et on devait s'y attendre, puisque le sel marin employé n'était pas parfaitement pur. On agitera et on ajoutera deux nouveaux millièmes qui produiront aussi un précipité. On continuera ainsi par des additions successives de deux millièmes, jusqu'à ce que la dernière ne précipité pas. Supposons qu'on ait ajouté en tout 16 millièmes. Les deux derniers ne doivent pas être comptés, n'ayant produit aucun précipité ; les deux précédens ont été nécessaires, mais en partie seulement ; c'est-à-dire que les millièmes utiles ajoutés sont au-dessus de 12 et au-dessous de 14, ou bien qu'ils sont, moyennement, égaux à 13.

Ainsi, dans l'état où est la dissolution normale, il en faut 1013 parties pour précipiter 1 gramme d'argent, tandis qu'il n'en faudrait que 1000. On trouvera la quantité de dissolution concentrée de sel commun qu'il faut ajouter en remarquant que la quantité de dissolution de sel marin, primitivement employée, savoir, 2279,3 grammes, n'a produit qu'un titre $1000 - 13 = 987$ millièmes, et en faisant la proportion suivante :

$$987 : 2279{,}3 :: 13 : x = 30{,}02 \text{ grammes.}$$

Cette quantité de dissolution de sel, mêlée à la dissolution normale, en corrigera le titre, et il s'agit de savoir de combien.

Après avoir lavé les tubes et la pipette avec la nouvelle dissolution, on opérera sur un nouveau gramme d'argent. On trouvera, par exemple, en ne procédant que par un millième à la fois, que le premier précipite, mais non le deuxième. Le titre de la dissolution sera par conséquent encore trop foible et compris entre 1000 et 1001, c'est-à-dire qu'il sera égal à $1000\frac{1}{2}$; mais il faut en approcher de plus près.

On versera dans le flacon d'épreuve deux millièmes de dissolution décime d'argent, qui détruiront sensiblement deux millièmes de sel marin, et l'opération aura rétrogradé de deux millièmes, c'est-à-dire qu'elle sera ramenée au point où elle était primitivement. Si, après avoir éclairci la liqueur, l'on ajoute un demi-millième de dissolution décime, il y aura nécessairement précipité, on le savait d'avance, mais un second ne produit aucun trouble. Le titre de la liqueur normale sera conséquemment compris entre 1000 et $1000\frac{1}{2}$, ou égal à $1000\frac{1}{4}$.

On doit s'en tenir à ce titre, mais si on veut le corriger, on remarquera, comme toute-à-l'heure, que les deux quantités de dissolution de sel ajoutées $2279^{gr},3 + 30^{gr},02 = 2309^{gr},32$ n'ont produit que 999,75 millièmes et qu'il faut en ajouter une nouvelle quantité correspondante à $\frac{1}{4}$ de millième. On ferait donc la proportion

$$999{,}75 : 2309{,}32 :: 0{,}25 : x.$$

Mais comme le premier terme est très-peu différent de 1000, on se bornera, pour avoir x, à prendre les $\frac{0{,}25}{1000}$ de 2309,32, et on trouvera 0^{gr} 577 pour la quantité de dissolution de sel marin qu'il faudra ajouter à la dissolution normale.

Il n'est pas commode de prendre exactement une aussi petite quantité de dissolution de sel marin avec la balance, mais on y parvient facilement par le procédé suivant.

On pèse 50 grammes de cette dissolution et on l'étend d'eau de manière qu'elle occupe exactement un demi-litre ou 500 centimètres cubes. Une pipette de cette dissolution, de un centimètre cube, donnera donc un décigramme de la dissolution primitive, et comme la pipette se divise en vingt gouttes, par exemple, chaque goutte représentera 5 milligrammes de dissolution. On arriverait à des quantités plus petites encore en étendant la dissolution saline d'une quantité convenable d'eau ; mais une plus grande précision serait complètement inutile.

Le titrage de la liqueur normale que nous venons de décrire, est réellement moins long qu'on ne pourrait le supposer ; il faut remarquer d'ailleurs que nous avons préparé de la liqueur pour plus de mille essais, et qu'en en préparant une nouvelle, on obtiendra de suite son véritable titre, ou à très-peu près, si l'on conserve les quantités d'eau et de dissolution de sel qui ont été employées.

Correction du Titre de la Dissolution Normale de Sel Marin, lorsque la Température varie.

Nous avons admis, en déterminant le titre de la dissolution normale de sel marin, que la température restait constante. Les essais faits dans cette circonstance n'ont besoin d'aucune correction ; mais si la température vient à changer, la même mesure de dissolution ne contiendra plus la même quantité de sel marin. Supposons qu'on ait titré la dissolution de sel marin à la température de 15°. Si au moment de l'expérience la température est à 18°, par exemple, la dissolution se trouvera trop faible, puisqu'elle se sera dilatée, et que la pipette en contiendra moins en poids ; si au contraire la température est descendue à 12°, la dissolution se sera concentrée et se trouvera trop forte. Il s'agit de déterminer la correction qu'il sera nécessaire de faire pour une variation quelconque de température.

Pour parvenir à ce but, on a porté successivement la température de la dissolution de sel marin

après avoir titré exactement la dissolution normale, on devra préparer une nouvelle dissolution décime. Nous avons répété cette observation, que nous avons déjà faite, pour ceux qui se borneraient au procédé d'essai par la voie humide en mesurant la dissolution au volume.

(B.)
FRENCH MINT.
Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

marin à 0 ... 5 ... 10 ... 15 ... 20 ... 25 ... 30 degrés, et on a pesé exactement trois pipettes de dissolution à chacune de ces températures. Le tiers du poids a donné le poids moyen d'une pipette. On a ensuite interpolé graphiquement de degré en degré les poids correspondans d'une pipette de dissolution. Ces poids forment la seconde colonne de la table suivante intitulée : Table de correction pour les variations de température de la dissolution normale de sel marin. Ils permettent de faire la correction pour une température quelconque entre 0 et 30 degrés, quand la dissolution de sel marin a été titrée dans les mêmes limites.

Admettons, par exemple, que la dissolution ait été titrée à 15° et qu'au moment de s'en servir sa température soit de 18°. On voit par la deuxième colonne de la table que le poids d'une mesure de dissolution est de 100gr 099 à 15° et de 100gr 065 à 18° ; la différence 0gr 034 est la quantité de dissolution que l'on a réellement prise de moins, et par conséquent il faut l'ajouter à la mesure normale, pour qu'elle soit égale à mille millièmes. Si la température de la dissolution était descendue à 10 degrés, la différence des poids d'une mesure à 10 et à 15 degrés serait de 0gr 019 qu'il faudrait au contraire retrancher de la mesure, puisqu'elle aurait été prise de trop. Ces différences de poids d'une mesure de dissolution à 15°, à celui d'une mesure pour toute autre température, forment la colonne 15° du tableau où elles sont exprimées en millièmes ; elles sont inscrites sur la même ligne horizontale que les températures auxquelles chacune d'elles se rapporte, avec le signe plus + quand elles doivent être ajoutées, et avec le signe moins — quand elles doivent être retranchées. Les colonnes 5°, 10°, 20°, 25°, 30° ont été calculées de le même manière pour les cas où la dissolution normale aurait été graduée à chacune de ces mêmes températures. Ainsi, pour calculer la colonne 10, on a pris le nombre 100,118 de la colonne des poids pour terme de départ et on a cherché sa différence à tous les nombres de la même colonne. Nous verrons bientôt une application de cette table.

TABLE de Correction pour les Variations de Température de la Dissolution Normale de SEL MARIN.

Température.	Poids.	5°.	10°.	15°.	20°.	25°.	30°.
	gram.	*mill.*	*mill.*	*mill.*	*mill.*	*mill.*	*mill.*
4	100,109	0,0	— 0,1	+ 0,1	+ 0,7	+ 1,7	+ 2,7
5	100,113	0,0	— 0,1	+ 0,1	+ 0,7	+ 1,7	+ 2,8
6	100,115	0,0	0,0	+ 0,2	+ 0,8	+ 1,7	+ 2,8
7	110,118	+ 0,1	0,0	+ 0,2	+ 0,8	+ 1,7	+ 2,8
8	100,120	+ 0,1	0,0	+ 0,2	+ 0,8	+ 1,8	+ 2,8
9	100,120	+ 0,1	0,0	+ 0,2	+ 0,8	+ 1,8	+ 2,8
10	100,118	+ 0,1	0,0	+ 0,2	+ 0,8	+ 1,7	+ 2,8
11	100,116	0,0	0,0	+ 0,2	+ 0,8	+ 1,7	+ 2,8
12	100,114	0,0	0,0	+ 0,2	+ 0,8	+ 1,7	+ 2,8
13	100,110	0,0	— 0,1	+ 0,1	+ 0,7	+ 1,7	+ 2,7
14	100,106	— 0,1	— 0,1	+ 0,1	+ 0,7	+ 1,6	+ 2,7
15	100,099	— 0,1	— 0,2	0,0	+ 0,6	+ 1,6	+ 2,6
16	100,090	— 0,2	— 0,3	— 0,1	+ 0,5	+ 1,5	+ 2,5
17	100,078	— 0,4	— 0,4	— 0,2	+ 0,4	+ 1,3	+ 2,4
18	100,065	— 0,5	— 0,5	— 0,3	+ 0,3	+ 1,2	+ 2,3
19	100,053	— 0,6	— 0,7	— 0,5	+ 0,1	+ 1,1	+ 2,2
20	100,039	— 0,7	— 0,8	— 0,6	0,0	+ 1,0	+ 2,0
21	100,021	— 0,9	— 1,0	— 0,8	— 0,2	+ 0,8	+ 1,9
22	100,001	— 1,1	— 1,2	— 1,0	— 0,4	+ 0,6	+ 1,7
23	99,983	— 1,3	— 1,4	— 1,2	— 0,6	+ 0,4	+ 1,5
24	99,964	— 1,5	— 1,5	— 1,4	— 0,8	+ 0,2	+ 1,3
25	99,944	— 1,7	— 1,7	— 1,6	— 1,0	0,0	+ 1,1
26	99,924	— 1,9	— 1,9	— 1,8	— 1,2	— 0,2	+ 0,9
27	99,902	— 2,1	— 2,2	— 2,0	— 1,4	— 0,4	+ 0,7
28	99,879	— 2,3	— 2,4	— 2,2	— 1,6	— 0,7	+ 0,4
29	99,858	— 2,6	— 2,6	— 2,4	— 1,8	— 0,9	+ 0,2
30	99,836	— 2,8	— 2,8	— 2,6	— 2,0	— 1,1	0,0

Tables pour soumettre à l'Essai par la Voie Humide un Alliage d'Argent à Proportions quelconques, en prenant une Mesure constante de Dissolution Normale de Sel Marin.

Le procédé par la mesure au poids de la dissolution normale se prête à l'essai de tous les alliages, puisqu'il suffit de prendre un poids de dissolution normale correspondant au titre présumé de l'alliage et de terminer l'essai avec les dissolutions décimes ; mais le procédé par les volumes n'a pas le même avantage, parce qu'on ne peut pas faire varier le volume de la dissolution normale, comme on en fait varier le poids. L'inconvénient n'est cependant pas très-grave ; car en conservant le volume de dissolution normale constant, il suffira de faire varier le poids de l'alliage et d'en prendre dans chaque cas particulier un poids tel qu'il contienne approximativement un gramme d'argent fin. Supposons un alliage au titre d'environ 900 millièmes, on fera la proportion :

$$900^{mil} : 1000 \text{ d'alliage} :: 1000^{mil} : x = 1111{,}1.$$

On

On cherchera le titre de l'alliage, sous ce poids, et on trouvera, par exemple, qu'à la mesure de 1000 millièmes de sel marin, il a fallu, pour précipiter tout l'argent, ajouter encore 4 millièmes de sel marin ; c'est-à-dire que dans les 1111,1 d'alliage il y en a réellement 1004 d'argent. On trouvera d'après ce résultat que le titre réel de l'alliage est de 903,6 en faisant la proportion.

$$1111{,}1 : 1004 : : 1000 : x = 903{,}6.$$

Mais de pareils calculs, quoique simples, doivent être évités pour des opérations journalières très-multipliées ; non-seulement à cause du temps qu'ils exigent, mais plus encore pour les erreurs auxquelles ils exposent, et qui auraient beaucoup de gravité. Heureusement tous ces inconvéniens peuvent être évités par l'usage de tables très-commodes qui ne laissent à l'essayeur aucun calcul à faire.

Voulant, dans la pesée des alliages, éviter les fractions de millièmes, et même ne faire usage que de dizaines et demi-dizaines de millièmes, nous avons admis que le poids de l'alliage croissait, à partir du gramme, de 5 en 5 millièmes, et nous avons cherché le titre correspondant à chacun de ces poids, contenant tous un gramme d'argent pur. Ainsi au poids 1020 d'un alliage dans lequel il y a 1000 d'argent et 20 de cuivre, correspond le titre 980,39 : on l'obtient par la proportion :

$$1020 : 1000 : : 1000 : x = 980{,}39.$$

C'est d'après ce principe qu'on a formé la première et la deuxième colonnes de la table intitulée Sel Marin (page 167). La première renferme le poids de chaque alliage et la seconde le titre correspondant. Les colonnes suivantes 1, 2, 3, jusqu'à 10, donnent les titres de l'alliage, lorsque, au lieu de 1000 milligrammes d'argent qu'il était supposé contenir, il en contient réellement 1, 2, 3, etc. de plus, et par conséquent, 1, 2, 3, etc. milligrammes de cuivre de moins. Une autre table, entièrement semblable à la précédente, intitulée Nitrate d'Argent (page 166), fait connaître le titre de l'alliage, lorsque sous le poids inscrit dans la première colonne, il contient 1, 2, 3, etc. milligrammes d'argent de moins et autant de cuivre de plus. Ainsi, pour donner un exemple, l'alliage dont le poids est 1020 (1000 d'argent et 20 de cuivre) a pour titre 980, 4 dans les deux tables. S'il contient, toujours sous le même poids, 4 d'argent de plus, et par conséquent 4 de cuivre de moins, son titre sera de 984,3, et se trouvera dans la table pour le sel marin à l'intersection de la colonne 4 et de la ligne horizontale 1020. Contient-il au contraire 4 d'argent de moins et 4 de cuivre de plus ? Son titre sera de 976,5, et se trouvera dans la table pour le nitrate d'argent à l'intersection de la colonne 4 et de la ligne horizontale 1020.

APPLICATIONS.

Essai de l'Argent pur ou à-peu-près, la Température de la Dissolution Normale de Sel Marin étant celle à laquelle elle a été titrée.

Premier exemple.—Soit un lingot d'argent, au titre approximatif de 995 à 1000 millièmes. On en prendra un gramme que l'on dissoudra avec dix grammes d'acide nitrique, dans un flacon, fig. 8. On versera ensuite dans le flacon une mesure bien exacte de dissolution normale de sel marin et on éclaircira le liquide par l'agitation. L'argent n'étant pas supposé parfaitement pur, il est inutile d'en explorer le titre avec la dissolution décime de sel marin ; on doit le faire avec celle de nitrate d'argent.

On versera donc 1 millième de cette dernière dans le flacon ; il y aura trouble et on agitera. Un second et un troisième millièmes précipiteront encore, mais non le suivant. D'après ces données, voici comment on parvient au titre de l'alliage.

Le dernier millième de dissolution décime d'argent, n'ayant produit aucun trouble, ne doit pas être compté. Le troisième a été nécessaire, mais en partie seulement ; par conséquent, le nombre de millièmes d'argent suffisant pour détruire l'excès de sel marin est plus grand que 2 et moindre que 3 ; c'est-à-dire, qu'il est égal, terme moyen, à 2 ½. Or, puisqu'il a fallu 2 ½ millièmes d'argent pour achever la précipitation de la mesure de sel marin, représentant 1000 millièmes d'argent, il est de toute évidence que l'argent soumis à l'essai contient 2 ½ millièmes d'alliage, et que son titre, à un demi-millième près, n'est que de 997 ½.

Veut-on approcher de plus près du titre de l'alliage ? On procédera de la manière suivante : on versera dans la dissolution 1 ½ millièmes de sel marin qui détruiront pareil nombre de millièmes d'argent (*a*), et, après avoir agité, on ajoutera un demi-millième de nitrate d'argent. Supposons qu'il se produise un trouble, nous n'irons pas plus loin, car nous savons qu'au-delà du troisième millième de nitrate d'argent il ne se fait plus de précipité dans la liqueur, et nous ne prendrons par conséquent que la moitié du dernier demi-millième, puisqu'il n'était nécessaire qu'en partie. D'après cela, le nombre utile de millièmes de nitrate d'argent

(*a*) Nous avons dit, p. 146, comment on sous-divisait un millième de dissolution décime par le nombre de gouttes que fournit la pipette. Si, par exemple, elle contient 20 gouttes, 10 en donneront la moitié, 5 le quart, etc. ; on peut aussi, pour avoir la moitié d'un millième, étendre la dissolution décime de son volume d'eau et en prendre la pipette entière. Nous avons même fini par donner la préférence à ce dernier moyen.

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

d'argent étant 4 $\frac{1}{4}$ et celui de sel marin 1 $\frac{3}{4}$, il reste 2 $\frac{5}{4}$ pour le nombre de millièmes de nitrate d'argent, ajoutés à la dissolution normale, et conséquemment le titre de l'alliage est 1000 — 2 $\frac{3}{4}$ = 997 $\frac{1}{4}$. Si au contraire le dernier demi-millième de nitrate d'argent ne produit aucun trouble, on ne le comptera pas, et on prendra seulement la moitié du demi-millième précédent. Ainsi des 4 millièmes de nitrate d'argent employés, on retranchera $\frac{1}{4}$ de millième, et de la différence 3 $\frac{3}{4}$ on retranchera encore 1 $\frac{3}{4}$ de sel marin; il restera finalement 2 $\frac{1}{4}$ millièmes de nitrate d'argent qui auront été ajoutés à la dissolution normale, et le titre de l'alliage sera de 1000 — 2 $\frac{1}{4}$ = 997 $\frac{3}{4}$.

Quoique l'opération que nous venons de décrire soit très-simple, il importe, pour éviter toute confusion, d'écrire chaque millième en sel marin ou en nitrate d'argent à mesure qu'il est ajouté. Les millièmes de sel marin indiquant une augmentation de titre, nous les ferons précéder du signe +, et les millièmes de nitrate d'argent, qui annoncent une diminution de titre, du signe —.

Deuxième exemple.—Soit un lingot au titre présumé de 895 millièmes, la température de la dissolution normale étant supposée invariable.

On cherchera dans la table des titres, 1re colonne, celui qui approche le plus de 895; c'est 896,9 correspondant au poids de 1115 millig. On prendra donc ce poids d'alliage, on le fera dissoudre dans l'acide nitrique, et après y avoir ajouté une mesure de dissolution normale de sel marin, on fera éclaircir par l'agitation. On est maintenant dans le doute pour savoir si l'on doit procéder avec la dissolution décime de sel marin, ou avec celle d'argent. Si la première précipite, on continuera; mais si elle ne précipite pas, on la détruira par une addition semblable de la seconde, et on fera éclaircir. L'opération sera ramenée au point de départ, mais l'on saura que c'est avec le nitrate d'argent qu'il faut procéder.

Supposons donc que l'alliage, après l'addition de la liqueur normale, précipite par la dissolution décime de sel marin. Les cinq premiers millièmes précipitent, mais non le sixième, qui par conséquent ne sera pas compté. Le cinquième ne doit l'être qu'en partie, car il faut plus de 4 millièmes et moins de 5; c'est-à-dire qu'il en faut, term moyen, 4,5, pour précipiter entièrement l'excès d'argent contenu dans la dissolution de l'alliage. Maintenant, en négligeant d'abord la fraction 0,5, on cherchera dans la table des titres pour le sel marin, le nombre qui se trouve sur la ligne horizontale du poids 1115 et dans la colonne 4, savoir: 900,4, et en ajoutant 0,5 à ce nombre, on aura 900,9 ou 901 pour le titre cherché. Ce procédé se fonde sur ce que la correction de la fraction serait très-faible et peut être négligée. Ce n'est que pour des titres beaucoup plus bas que la correction de la fraction acquerrait quelque importance; mais on peut la faire facilement de mémoire en remarquant que cette correction est proportionelle à l'abaissement du titre. Ainsi, dans notre exemple, le titre de l'alliage étant de 900 environ, la fraction 0,5 aurait dû être diminuée de 0,05; ce qui l'aurait réduite à 0,45.

Supposons maintenant que le même alliage, après l'addition de la mesure normale de sel marin, précipite avec le nitrate d'argent, et que les trois premiers millièmes aient produit un trouble, mais non le quatrième. Le nombre de millièmes de nitrate d'argent, réellement nécessaire pour la précipitation complète, sera, à un demi-millième près, de 2,5. Pour avoir le titre réel de l'alliage dont un poids de 1115 avait été supposé contenir approximativement 1000 d'argent, on prendra le nombre qui se trouve dans la ligne horizontale 1115 et dans la colonne 2 de la table pour le nitrate d'argent. Ce nombre qui est 895,1, diminué de la fraction 0,5, donne 894,6 pour le titre de l'alliage à un demi-millième près.

Troisième exemple.—La température actuelle la dissolution normale de sel marin étant de 18°, tandis que celle à laquelle elle a été titrée, est de 15°.

Le lingot d'argent soumis à l'essai est au titre approximatif de 795 millièmes. On cherchera dans la table des titres, 1re colonne, celui qui s'en rapproche le plus, c'est 793,7 correspondant au poids 1260. On prendra donc ce poids d'alliage et on procédera à l'exploration du titre comme on l'a fait jusqu'à présent. Supposons qu'il ait fallu 6, 5 millièmes de sel marin pour précipiter tout l'argent contenu dans l'alliage à un demi-millième près; le titre cherché, sans la correction de la température, sera 798, 4 + 0, 4 = 798,8. Maintenant, pour avoir égard à cette correction, on aura recours à la table page 154, colonne 15°; le nombre 0,3, qu'on trouvera dans la ligne horizontale 18 et la colonne 15, affecté du signe moins, devra être retranché de 798,8, et le reste 798,5 sera le titre demandé. Si la température de la dissolution, au lieu d'être de 3° plus élevée qu'au moment où elle a été titrée, était de 3° plus basse, ou de 12°, la correction serait additive et égale à + 0,2. Le titre de l'alliage serait par conséquent de 798,8 + 0,2 = 799.

Graduation de la Dissolution Normale de Sel Marin, la Température étant différente de celle à laquelle on veut la graduer.

Deux procédés également faciles peuvent être employés: l'un consistant à ramener la température de la dissolution à celle que l'on désire, avant d'en prendre le titre; l'autre à déterminer le titre sans avoir égard à la température de la dissolution, et à le corriger ensuite de son influence, au moyen de la table des corrections de température.

Premier procédé.—On reçoit de la liqueur que l'on veut graduer dans un flacon F, fig. 23; on y plonge un thermomètre et on l'échauffe au degré déterminé, à 20° par exemple. Cela fait, on engage le bec de la pipette dans le flacon, et on y fait monter la dissolution par aspiration, au moyen du tube conique T, pl. 2, fig. 17, que l'on adapte à l'embouchure du robinet à air R. Aussitôt que le liquide s'est élevé un peu un-dessus du trait *a b*, qui détermine la capacité de la pipette, on ferme le robinet à air, et on achève la mesure comme d'ordinaire. Ce même moyen de remplir la pipette par aspiration serait employé pour dégraisser la

pipette

pipette avec une lessive alcaline, ou la nettoyer avec de l'acide nitrique affaibli, si mieux on n'aimait la démonter.

Deuxième procédé.—La dissolution de sel marin étant supposée à la température de 16°, on veut la graduer pour celle de 20°. On procédera à la détermination du titre sans avoir égard à la température, mais quand on l'aura obtenu, dans chaque essai de tâtonnement, on y fera la correction qu'exige la température.

Si, par exemple, dans une épreuve d'approximation, on a trouvé que le titre de la dissolution est exprimé par 1001,5, ce titre ne sera pas seulement trop faible de 1,5 millièmes, il le sera encore, d'après la table des températures, de 0,5 millième de plus; car la dissolution s'affaiblirait de cette quantité en passant de la température de 16° à celle de 20°. Le titre, si on l'eût pris à cette dernière température, serait donc trop faible de 2 millièmes, et on le corrigerait en conséquence.

Si, au contraire, le titre de la dissolution, au lieu d'être trop faible, était trop fort, et exprimé par 998,5 à la température de 16°; à celle de 20°, la dissolution s'étant affaiblie de 0,5, le titre ne serait réellement trop fort que de 1 millième, et ce n'est que de cette quantité qu'il devrait être corrigé.

Détermination approximative du Titre d'un Alliage inconnu.

Nous avons supposé que le titre d'un alliage présenté à l'essai était connu approximativement, et c'est en effet ce qui a lieu presque toujours. Si cette connaissance manquait à l'essayeur, deux moyens lui seraient offerts pour l'acquérir. Il passerait à la coupelle un décigramme d'alliage avec un gramme de plomb; ou bien, pour ne rien emprunter à la coupellation, il opérerait par la voie humide de la manière suivante.

L'essayeur supposerait le titre de l'alliage connu à un vingtième près, et certes il le connaîtra toujours beaucoup plus approximativement par le touchau, la densité, etc. Il en prendrait un poids relatif à son titre présumé, et en chercherait le titre en ajoutant la liqueur décime par 10 millièmes à la fois, au moyen de pipettes de cette capacité, fig. 44. Il arriverait bientôt à dépasser le terme de la précipitation complète, et il aurait ainsi le titre de l'alliage à 5 millièmes près. Parvenu à cette limite, qui cependant est suffisante, il obtiendrait une approximation deux fois plus grande en opérant par 5 millièmes; ce qui lui donnerait le titre de l'alliage à 2,5 millièmes près.

Soit un alliage au titre supposé de 840 millièmes. On en prendra un poids de 1190 correspondant à ce titre, et on procédera comme pour un essai ordinaire, en mettant à chaque fois une pipette de dix millièmes de dissolution décime de sel marin par exemple. On trouvera que la cinquième pipette ne précipite plus et que par conséquent le nombre de millièmes de sel marin, nécessaire à 5 millièmes près pour la précipitation de l'argent contenu dans l'alliage, est de 35. Les 1190 d'alliage contiendront donc $1000+35=1035$ d'argent, et le titre approché s'obtiendra par la proportion:

$$1190 : 1035 : : 1000 : x = 869{,}7 \ (a).$$

Moyens d'abréger les Manipulations.

Dans l'exposition que nous avons faite du mode d'essai par la voie humide, nous nous sommes renfermés dans ce qui était nécessaire pour le faire comprendre, en écartant tout ce qui aurait pu détourner l'attention ou la fatiguer. Maintenant nous allons décrire quelques moyens propres à abréger les manipulations, en supposant que l'on peut faire dix essais à la fois, ou au moins cinq.

Flacons. Ils doivent avoir tous sensiblement la même hauteur et le même diamètre. Ils sont numérotés à leur partie supérieure, ainsi que leurs bouchons, fig. 24, suivant la progression des nombres 1, 2, 3, etc. On les prend successivement par dizaines dans l'ordre naturel: les bouchons de la même série sont placés sur un support de même numéro, fig. 25, percé de dix trous dont on distingue de suite le rang par le moyen d'un trait entre le cinquième et le sixième.

Casier. Chaque dizaine de flacons est à son tour placée dans un casier en fer-blanc verni, fig. 26, à dix compartimens numérotés de un à dix. Ces compartimens sont échancrés antérieurement dans la moitié environ de leur hauteur, pour permettre de voir le fond des flacons. Le même casier sert pour toutes les séries, en faisant correspondre les mêmes unités; ainsi le N° 23 de la 3e série est placé dans la case N°. 3, etc. Lorsque chaque flacon a reçu son alliage, au moyen d'un entonnoir à large bec, fig. 27 (*b*), on y verse environ 10 grammes

(*a*) Au nombre des moyens qu'on peut employer pour reconnaître approximativement le titre des alliages, nous citerons leur propriété électro-motrice. Il suffit, pour en faire usage, d'avoir une série d'alliages à proportions connues, et de construire une table de la déviation produite par chacun d'eux dans l'aiguille du galvanomètre en les comparant à l'argent fin; mais il serait plus sûr de comparer l'alliage inconnu à un alliage connu, en s'arrêtant à celui qui, associé au premier, ne produirait aucune déviation et aurait par conséquent la même composition. Je me suis assuré que ce moyen pouvait être employé avec succès; mais le temps ne m'a pas encore permis de le régulariser.

(*b*) On obtiendra facilement ces entonnoirs en coupant le col d'un matras d'essai, à environ 7 centimètres de sa panse, puis en pratiquant avec une lime une petite fêlure au milieu de la panse, et y présentant la pointe d'un charbon ardent pour prolonger le fêlure dans toute la circonférence.

(B.)
French Mint.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

grammes d'acide nitrique à 32° B, avec une pipette, fig. 12, pl. 2, qui donne cette quantité d'acide ; puis on les expose à la chaleur d'un bain-marie pour faciliter la dissolution de l'alliage.

Bain-marie. C'est un vase oblong, en fer-blanc, destiné à recevoir dix flacons (fig. 28.) Il a un double fond mobile, percé de petits trous, dont l'objet principal est d'empêcher la rupture des flacons en les isolant du fond immédiatement exposé à l'action de la chaleur. Sur le fond mobile sont soudés des cylindres *c c*, de trois à quatre centimètres de haut ; et au-dessus, à la distance de 8 centimètres, est une feuille de fer-blanc *p p* percée de dix trous correspondant aux cylindres et liée avec le fond mobile par quelques supports *s, s.* Ces cylindres et la feuille de fer-blanc sont destinés à isoler les flacons F, F les uns des autres dans le bain et à les tenir quelque temps suspendus au-dessus avant de les y plonger quand il est bouillant. Le bain-marie peut être remplacé par un bain de vapeur; les flacons seraient alors soutenus par un grillage au-dessus de la surface de l'eau. La dissolution de l'alliage dans l'acide nitrique est rapide, et comme elle donne lieu à un dégagement abondant de vapeur nitreuse, on doit la faire sous une cheminée tirant bien.

Cheminée. On la voit représentée fig. 29. C C en est le tuyau, s'arrêtant sur une table ou paillasse T T à la hauteur d'environ 90 centimètres. Le côté antérieur dans la figure est enlevé pour laisser voir le bain-marie B et le forneau F. L'ouverture O de la cheminée est fermée par une porte en bois P, mobile sur deux pivots excentriques, qu'on tient relevée pendant la dissolution, et qu'on rabat après pour poser les flacons dessus. On chasse ensuite la vapeur nitreuse des flacons en soufflant dedans à plusieurs reprises avec le soufflet, fig. 13. L'auvent H est destiné à empêcher la diffusion de la vapeur nitreuse dans le laboratoire. Néanmoins il en reste constamment en dissolution dans le nitrate d'argent qui, se dégageant peu à peu, pourrait incommoder l'opérateur. Pour éviter cet inconvénient, les flacons sont fermés avec des bouchons coniques de liége, allant indistinctement à tous ; on les place ensuite dans l'agitateur, fig. 30.

Agitateur. La fig. 30 en donne une idée suffisamment exacte et dispense d'une longue description. Il porte dix compartimens cylindriques, numérotés de 1 à 10. Les flacons, après la dissolution de l'alliage, y sont disposés dans l'ordre de leurs numéros. L'agitateur est ensuite placé à portée de la pipette destinée à mesurer la dissolution normale de sel marin, et l'on met dans chaque flacon une pipette de cette dissolution. On les ferme à mesure avec leur bouchon de verre préalablement trempé dans de l'eau pure, fig. 31, et on les remet en ordre dans l'agitateur où ils sont maintenus avec des coins de bois, fig. 32 (*a*). L'agitateur est alors suspendu à un ressort R, et on lui imprime en le prenant avec les deux mains, un mouvement alternatif rapide qui agite la dissolution et la rend, en moins d'une minute, aussi limpide que l'eau. Ce mouvement est favorisé par un ressort à boudin B, fixé à l'agitateur et au sol ; mais nous n'en faisons pas usage, parce qu'il est commode de pouvoir transporter l'agitateur d'un lieu dans un autre. L'agitation terminée, on ôte les coins et on les loge dans l'espace vide que laissent entre eux les compartimens. On enlève l'agitateur, et on place les flacons par ordre sur une console, fig. 33, destinée à les recevoir.

Console, fig. 33 ; elle est à deux fonds ; le supérieur est percé de dix trous d'un diamètre plus grand que celui des flacons, et sa distance au fond inférieur est telle que le bord des flacons ne dépasse pas, ou du moins que de très-peu, la console. Cette disposition a pour objet de garantir le chlorure d'argent du contact de la lumière, car elle le décompose au moyen de l'eau et produit un peu d'acide hydro-chlorique qui exigerait pour sa précipitation une certaine quantité de nitrate d'argent et abaisserait par conséquent le titre de l'alliage. Cette cause d'erreur ne doit cependant pas être exagérée, à moins que le chlorure d'argent ne soit frappé directement par la lumière, mais il est si facile de l'éviter, qu'on ne doit pas négliger de le faire. La disposition que nous avons indiquée ne complique d'ailleurs en aucune manière le procédé, et serait même utile pour abriter les flacons et empêcher de les renverser. Lorsqu'on n'opère qu'avec un flacon, on le place pour l'agiter dans un cylindre en fer-blanc verni que l'on saisit comme l'indique la figure 34.

En plaçant les flacons dans la console, on leur imprime un mouvement brusque, circulaire, pour ramasser le chlorure d'argent épars sur leurs parois ; puis on enlève leurs bouchons qu'on fait tenir suspendus par des pinces à ressort *a, a,* &c., formées avec un gros fil de fer (*b*). On verse ensuite un millième de dissolution décime dans chaque flacon, et, avant que cette opération soit terminée, il se forme dans les premiers, lorsqu'il doit y avoir précipité, une couche nébuleuse, bien tranchée, d'environ un centimètre d'épaisseur.

En arrière de la console est une planche P P noircie, divisée en compartimens numérotés de 1 à 10, sur chacun desquels on marque avec de la craie les millièmes de liqueur décime mis dans le flacon correspondant. Les millièmes de sel marin qui annoncent une augmentation de titre sont précédés du signe +, et les millièmes de nitrate d'argent du signe —.

Enfin la planche noire porte une petite tablette percée de trous *t, t,* &c. pour poser des entonnoirs, ou faire égoutter des flacons. C'est aussi sur cette tablette que sont fixées, simplement par des vis et avec des brides qui en limitent l'écartement, les pinces à ressort destinées à soutenir les bouchons des flacons.

Lavage

(*a*) Nous ferons remarquer que, les flacons ayant été fermés avec des bouchons de liége, on n'enlève ces derniers qu'au moment où les flacons sont prêts à arriver sous la pipette pour recevoir leur mesure de dissolution de sel marin. L'air mêlé de vapeur nitreuse que déplace la dissolution est entraîné au moyen de l'un des deux appareils d'aspiration, fig. 46 et fig. 47, qui seront décrits plus tard, sans que l'opérateur en reçoive la plus légère impression.

(*b*) On voit, fig. 35 une de ces pinces presque de grandeur naturelle.

Lavage des flacons. Les essais terminés, on verse la liqueur de chaque flacon dans un grand vase, dans lequel on a soin d'entretenir un léger excès de sel marin, et lorsque celui-ci est plein, on décante avec un syphon le liquide surnageant supposé clair. Nous dirons plus tard comment on réduit le chlorure d'argent. Les flacons, au nombre de 10, sont d'abord rincés avec la même eau que l'on passe de l'un dans l'autre, puis une seconde et une troisième fois avec de nouvelle eau. Ils sont enfin mis à égoutter sur une planche percée de trous, et leurs bouchons placés dans un casier par séries de 10, fig. 36, ou fig. 25.

Il est important de remarquer que, lorsqu'on rince un verre avec de l'eau distillée, il faut se garder de le frotter avec les doigts, car l'eau louchirait constamment avec le nitrate d'argent. Cet effet est dû à la transpiration, qui rejette des chlorures à la surface de la peau, surtout en été, où elle est beaucoup plus abondante.

Réduction du Chlorure d'Argent obtenu dans les Essais par la Voie Humide.

Dans le procédé de la coupellation, l'essayeur rend les boutons d'essai au propriétaire de l'alliage; mais dans celui de la voie humide il est obligé de garder le chlorure d'argent et de rendre en échange un poids équivalent d'argent.

Pour obtenir facilement ce poids, on prend du fil d'argent d'un titre connu, et on le coupe avec une cisaille en tronçons d'une longueur convenable que l'expérience a bientôt appris à déterminer avec une exactitude suffisante; mais si l'on veut une plus grande précision, on n'aura, la cisaille étant fixe, qu'à appuyer le fil d'argent contre un buttoir à vis que l'on règlera de manière à obtenir le poids que l'on désire.

Le chlorure d'argent peut être réduit sans perte sensible: après l'avoir bien lavé, on y plonge des morceaux de fer ou de zinc, et on ajoute de l'acide sulfurique en quantité suffisante pour entretenir un faible dégagement de gaz hydrogène. On ne touche point à la masse. En quelques jours l'argent est complètement réduit; on le reconnaît aisément à la couleur et à la nature du produit, ou bien en en traitant une petite partie par de l'ammoniaque, qui, si le chlorure est tout-à-fait réduit, ne doit pas donner de précipité en la saturant par un acide. Le chlore reste en dissolution dans l'eau, combiné avec le fer ou le zinc. Les premiers lavages sont faits avec de l'eau mêlée d'un peu d'acide pour dissoudre l'oxide de fer qui aurait pu se former, et les suivans avec de l'eau ordinaire. Après avoir décanté l'eau du dernier lavage, on dessèche la masse et on ajoute un peu de borax en poudre. Il ne reste plus qu'à procéder à la fusion. L'argent étant en poudre volumineuse, est mis successivement par parties dans le creuset à mesure qu'il s'affaisse. La chaleur doit être d'abord modérée, mais vers la fin de l'opération, il faut qu'elle soit assez forte pour amener à complète fusion l'argent et les scories, et en bien déterminer la séparation. Dans le cas où on craindrait que tout le chlorure d'argent n'eût pas été réduit, on ajouterait un peu de carbonate de potasse au borax.

Ce procédé nous a paru le plus avantageux, et c'est celui que nous employons au bureau de garantie; mais on peut aussi obtenir l'argent immédiatement en fondant le chlorure avec de la craie et du charbon.

On dessèche complètement le chlorure, ou au moins une partie, pour connaître la quantité d'eau restée dans la masse, et, pour 100 parties de chlorure sec, on ajoute 70,4 de craie et 4,2 de charbon réduit en poudre très-fine. On mêle exactement ces trois matières, on en remplit un creuset aux trois quarts, et on le tient exposé d'abord à une chaleur rouge seulement. A mesure que le mélange s'affaisse dans le creuset, on en met de nouvelles parties et on finit par un bon coup de feu. On laisse refroidir l'argent dans le creuset; il se détache facilement de la masse saline superposée. Le titre de l'argent obtenu est de 999 à 1000 millièmes.

Préparation de l'Argent parfaitement pur.

L'argent retiré du chlorure provenant de l'essai des matières d'argent n'est pas entièrement pur; il contient une certaine quantité d'or qui dépasse quelque fois un demi-millième, mais qui diminuera à mesure que les matières anciennes passeront à l'affinage. Il peut aussi retenir un peu de cuivre, si les lavages du chlorure n'ont pas été poussés assez loin, et si surtout le chlorure s'est précipité au milieu d'une dissolution cuivreuse très-concentrée.

Pour obtenir de l'argent parfaitement pur, on prendra de l'argent qui le soit à peu près déjà, ou tel que le fournit le commerce; on le dissout dans l'acide nitrique, et on abandonne quelque temps la dissolution au repos, pour laisser déposer l'or qui était contenu dans l'alliage.

La dissolution décantée, on la précipite par le sel marin, on lave le chlorure et on le réduit par l'un des deux procédés qui viennent d'être décrits. L'argent ainsi obtenu sera parfaitement pur; mais s'il provenait d'un chlorure précipité d'une dissolution très-cuivreuse, il serait nécessaire de le convertir de nouveau en chlorure et de le réduire.

On réussit également bien à purifier l'argent en le traitant par l'acide sulfurique concentré; on décante le liquide pour séparer l'or; on étend d'eau, et on lave plusieurs fois le précipité pour enlever le sulfate de cuivre; enfin on réduit le sulfate d'argent par le fer, comme le chlorure.

Préparation de l'Acide Nitrique pour les Essais par la Voie Humide.

L'acide nitrique employé aux essais doit être exempt d'acide hydrochlorique. Sa distillation, après l'avoir mêlé avec du nitrate d'argent pour précipiter le chlore, est un moyen certain d'arriver à ce but; mais l'opération est longue et difficile, parce qu'elle est souvent accompagnée

(B.)
French Mint.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

accompagnée de soubresauts, et il ne sera pas inutile d'apprendre à purifier l'acide nitrique pour les essais sans le distiller. Le procédé consiste à y ajouter successivement du nitrate d'argent jusqu'à précipitation complète de l'acide hydrochlorique. On doit opérer sur une grande quantité d'acide nitrique, car il ne sera pas plus long de la purifier qu'une petite; et pour marcher plus sûrement, on s'y prend de la manière suivante.

On dissout 50 grammes d'argent, à l'état de pur ou d'alliage, dans l'acide nitrique, et on étend d'eau la dissolution de manière qu'elle occupe un demi-litre. D'une autre part, on prépare une liqueur équivalente de sel marin en en dissolvant 27,136 grammes dans l'eau et faisant aussi occuper à la dissolution un volume de demi-litre. On verse d'abord du nitrate d'argent dans l'acide nitrique, tant qu'on aperçoit le trouble qu'il y produit. Quand il n'est plus sensible, à cause du chlorure d'argent qui reste long-temps en suspension, on attend que l'acide se soit éclairci par le repos seul, ce qui est long; ou bien on en agite une portion dans un flacon, et mieux encore on la filtre. Cette opération se fait dans un tube T, fig. 37, terminé en pointe et d'un diamètre de 4 à 5 centimètres. On y met d'abord quelques petits fragmens de verre et par-dessus une couche de 3 à 4 centimètres d'épaisseur de poudre de verre qui n'a pas besoin d'être très-fine; mais, pour boucher les interstices trop grossiers du filtre, on le remplit d'acide récemment agité pour mettre le chlorure d'argent déjà formé en suspension. Le chlorure se dépose, obstrue les pores, et l'acide ne tarde pas à passer parfaitement transparent. Revenons maintenant à la purification de l'acide nitrique par le nitrate d'argent.

Pour arriver plus promptement au terme de la saturation exacte, on ajoute la dissolution d'argent par volumes d'un centimètre cube, en faisant usage d'une burette, ou simplement d'une pipette comme celle décrite fig. 4. On parvient ainsi bientôt à dépasser la saturation, et alors on ajoute deux centimètres cubes de sel marin équivalens aux deux derniers de nitrate d'argent, l'un pour détruire la mesure de nitrate d'argent qui n'avait rien précipité, et l'autre pour détruire celle qui avait précipité, mais qui n'était nécessaire qu'en partie. On sait maintenant qu'il faut moins d'une mesure de nitrate d'argent, et on procède par gouttes seulement. Quand on sera arrivé à la goutte qui n'aura pas donné de précipité, on pourra la détruire par une goutte de sel marin; mais on va sentir que cela n'est pas nécessaire.

Supposons que l'on opère sur 10 kilogrammes d'acide nitrique, avec lesquels on peut faire au moins 1,000 essais. Puisque nous avons 50 grammes d'argent en dissolution, dans un volume d'un demi-litre ou de 500 centimètres cubes, une mesure que nous avons supposée d'un centimètre cube contiendra 100 milligrammes d'argent, et une goutte, qui en est environ la vingtième partie, contiendra conséquemment 5 milligrammes d'argent. Or, 5 milligrammes divisés par 1000, donnent 1/200 de milligramme d'argent que l'on ajoutera de trop à chaque essai; quantité qui, comme l'on voit, est tout-à-fait insignifiante. Mais lors même qu'elle ne le serait pas et qu'elle équivaudrait à un ou plusieurs milligrammes, elle ne troublerait en aucune manière l'exactitude des essais, puisqu'elle se présenterait comme une quantité constante dans la graduation de la dissolution normale de sel marin et dans chaque essai

Lorsqu'on sera parvenu à purifier l'acide nitrique, il ne s'agira plus que de lui rendre sa transparence. Deux moyens se présentent pour cela; l'un, le plus simple peut-être des deux, consiste à abandonner l'acide au repos dans un lieu obscur pendant dix ou quinze jours. Au bout de ce temps, il est parfaitement clair, et l'on peut le décanter avec un syphon que l'on remplit d'eau distillée avant de le plonger dans l'acide, ou que l'on amorce en comprimant avec la bouche l'air du flacon. L'autre moyen consiste à filtrer l'acide sur le verre comme nous l'avons déjà décrit. La figure 38 montre l'appareil. Le tube-filtre est alimenté par un syphon S qui remplace l'acide à mesure qu'il s'écoule, parce que le niveau doit toujours rester le même dans le tube et dans le flacon. La filtration se continue d'elle-même jusqu'à sa fin, sans qu'on ait besoin de s'en occuper. Quand elle est devenue trop lente par l'abaissement du niveau du liquide, on peut la ranimer en baissant convenablement le tube ou en élevant le flacon. Le syphon est amorcé en soufflant par le tube V adapté au flacon, au moyen d'un bouchon; mais il faut avoir soin de ne pas inspirer l'air quand on se retire. S'il arrive que le filtre s'obstrue et laisse passer l'acide trop lentement, on doit le remplacer par un autre, ou bien laver le verre à grande eau et décanter rapidement; le chlorure d'argent se déposant plus lentement que le verre est entraîné et s'en sépare aisément.

Application du Procédé d'Essai par la Voie Humide à la Détermination du Titre du Doré.

Quand l'alliage contient au moins cinq à six fois plus d'argent et de cuivre que d'or, l'essai en est très-facile pour l'argent, et se fait comme celui d'un alliage ordinaire de cuivre et d'argent; mais si on veut obtenir l'or en même temps, il exige quelques modifications.

On prend un poids connu d'alliage contenant approximativement un gramme d'argent fin; on le fait dissoudre dans un matras à l'émeri fig. 39, de la contenance d'environ 200 grammes d'eau, avec 30 grammes d'acide nitrique à 32° B, et on fait bouillir pendant dix minutes. C'est pour ce dernier motif qu'on emploie un matras au lieu d'un flacon, qui ne pourrait pas supporter l'ébullition. On termine l'essai comme d'ordinaire, mais pour avoir l'or et le séparer du chlorure d'argent, on sursature d'ammoniaque la dissolution; le chlorure se dissout parfaitement et l'or reste en poudre qu'on laisse bien rassembler; on décante, on lave l'or avec de l'eau ammoniacale, deux fois de suite, puis on le fait passer dans un creuset pour le recuire.

Si l'or était allié à l'argent et au cuivre dans un plus grand rapport que celui de 1 : 6, on ajouterait une quantité connue d'argent que l'on retrancherait après l'essai; mais il serait nécessaire de fondre l'alliage, et quelques précautions doivent être prises pour éviter une perte.

(B.)
French Mint.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

perte. On tapisse le fond du creuset avec du papier, on met l'alliage par dessus et on recouvre ce dernier de borax fondu, en poudre. Le bouton n'adhère pas au creuset et ne doit pas éprouver de perte sensible.

En appliquant le mode d'essai par la voie humide aux alliages connus sous le nom de doré, nous avons eu plutôt pour but de faire connaître la possibilité de cette application que de le substituer au procéde de la coupellation et du départ. Nous ajoutérons même que l'essai par la voie humide seule suppose que l'alliage ne contient que de l'argent, du cuivre et de l'or, et que, s'il contenait en même temps un peu d'étain, ce qui arrive quelquefois, la coupellation deviendrait indispensable pour séparer ce métal.

Application du Procédé d'Essai par la Voie Humide à la Détermination du Titre des Monnaies.

D'après les détails dans lesquels nous sommes entrés, nous n'aurons que quelques mots à dire pour faire comprendre l'application du nouveau procédé à la détermination du titre des monnaies. Nous prendrons pour exemple la monnaie d'argent de France qui est au titre de 900 millièmes, avec une tolérance de 3 millièmes tant en dessus qu'en dessous de ce nombre ; c'est-à-dire, que la limite inférieure du titre est 897 et la supérieure 903.

Nous partirons de la limite inférieure 897, parce qu'il vaut mieux suivre la même marche ascendante que de partir du titre moyen 900, et d'avoir à descendre pour une partie des pièces soumises à l'essai et à monter pour l'autre.

Il s'agit d'abord de chercher le poids d'alliage que l'on doit prendre en le supposant au titre de 897. En faisant la proportion :

$$897 : 1000 : : 1000 : x = 1114{,}82,$$

on trouvera 1114,8 pour ce poids.

Tous les essais étant pesés, on les mettra chacun dans un flacon. La dissolution terminée, et chaque flacon ayant reçu une mesure normale de sel marin, représentant 1000 millièmes d'argent, on ajoutera à chaque flacon un millième de sel marin. Tous doivent précipiter si les monnaies sont au-dessus de la limite inférieure 897. On éclaircira les dissolutions par l'agitation, et on ajoutera un second millième. Les flacons qui ne précipitent pas seront terminés ; on ne comptera pas le dernier millième qui n'aura pas produit de louche dans la liqueur, et on prendra seulement la moitié du précédent.

Après avoir ainsi trouvé successivement le nombre de millièmes et demi-millièmes de sel marin, pour chaque flacon, on fera la correction de la température et on cherchera ensuite dans la table suivante, pour le sel marin, le titre correspondant.

Si, par exemple, il a fallu ajouter 2,5 millièmes de sel marin, on trouvera que le titre réel de la pièce est de 899,2. Mais si la température exige + 0,3 de correction, le titre exact sera 899,5.

Dans la supposition où l'on voudrait le titre approché à $\frac{1}{4}$ de millième ; après être parvenu au millième de sel marin ne précipitant plus, on ajoutera deux millièmes de nitrate d'argent qui détruiront les deux derniers de sel marin, et on procédera par demi-millièmes de sel marin.

Pour éviter l'addition ou la soustraction des fractions $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$, on a construit les petites tables suivantes à l'usage spécial de l'essai des monnaies de France. Il sera très-facile d'en construire de semblables pour tout autre titre.

Tables à l'Usage des Monnaies de France.

Nitrate d'Argent.

Fractions.	TITRES.										
	0 Mill.	1 Mill.	2 Mill.	3 Mill.	4 Mill.	5 Mill.	6 Mill.	7 Mill.	8 Mill.	9 Mill.	10 Mill.
0	897,0	896,1	895,2	894,3	893,4	892,5	891,6	890,7	889,8	888,9	888,0
$\frac{1}{4}$	896,8	895,9	895,0	894,1	893,2	892,3	891,4	890,5	889,6	888,7	887,8
$\frac{2}{4}$	896,6	895,7	894,8	893,9	893,0	892,1	891,2	890,3	889,4	888,5	887,6
$\frac{3}{4}$	896,3	895,4	894,5	893,6	892,7	891,8	890,9	890,0	889,2	888,3	887,4

Sel Marin.

Fractions.	TITRES.										
	0 Mill.	1 Mill.	2 Mill.	3 Mill.	4 Mill.	5 Mill.	6 Mill.	7 Mill.	8 Mill.	9 Mill.	10 Mill.
0	897,0	897,9	898,8	899,7	900,6	901,5	902,4	903,3	904,2	905,1	906,0
$\frac{1}{4}$	897,2	898,1	899,0	899,9	900,8	901,7	902,6	903,5	904,4	905,3	906,2
$\frac{2}{4}$	897,4	898,3	899,2	900,1	901,0	901,9	902,8	903,7	904,6	905,5	906,4
$\frac{3}{4}$	897,7	898,6	899,5	900,4	901,3	902,2	903,1	904,0	904,8	905,7	906,6

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

Si, par exemple, on a trouvé qu'à la mesure normale de sel marin, il a fallu ajouter $4^{m}\frac{3}{4}$ de la même dissolution décime, on cherchera dans la table le nombre qui sera dans la colonne 4 et la ligne horizontale $\frac{3}{4}$; ce nombre 901,3 sera le titre cherché. On fera ensuite la correction de la température s'il y a lieu.

Application du Procédé d'Essai par la Voie Humide à la Détermination du Titre de l'Orfévrerie dans les Bureaux de Garantie.

En France, on a deux titres pour l'orfévrerie d'argent; 950 et 800 millièmes, avec 5 millièmes de tolérance. En partant des limites inférieures 945 et 795, les poids d'alliage qu'on doit prendre pour chacun de ces deux titres, sont :

Pour le premier - - - - - - - - 1058,20.
Pour le second - - - - - - - - 1257,86.

Après la dissolution des alliages, l'addition à chacun d'eux d'une mesure de dissolution normale de sel marin, et l'éclaircissement parfait du mélange, on verse dans chaque vase un millième de dissolution décime d'argent; si les liqueurs ne sont point troublées, les alliages seront tous au moins à la limite inférieure du titre; puisque la quantité de dissolution normale de sel marin qui correspond à cette limite a été entièrement détruite. Il ne sera pas nécessaire de pousser plus loin l'opération. Mais si quelques flacons montrent du trouble, ce sera une preuve certaine que les alliages correspondans sont au-dessous de la limite du titre. Après l'agitation, on continuera à ajouter de la dissolution décime d'argent par 1 ou 2 millièmes, jusqu'à ce qu'on ait déterminé le véritable titre.

En se servant de la dissolution décime de sel marin, les dissolutions des alliages supposés au titre auraient toutes donné un précipité, à l'exception de celles des alliages exactement à la limite inférieure du titre. A plus forte raison n'en aurait-on pas eu avec les alliages d'un titre au-dessous de cette limite. Dans ce cas, pour parvenir au véritable titre, il faut commencer par détruire le millième de sel marin par un millième de nitrate d'argent et agiter. On est alors ramené exactement au point de départ, avec cette différence seulement que l'on sait que c'est avec la dissolution décime d'argent qu'on doit procéder. Il y aurait donc eu économie de temps en commençant par le nitrate d'argent, et c'est précisément par ce motif que nous avons dit d'explorer la dissolution de chaque alliage avec le nitrate d'argent au lieu du sel marin.

Il arrive assez fréquemment dans les bureaux de garantie que l'on ne peut prélever sur les ouvrages présentés, que de petites prises d'essai. Dans ce cas, on prendra des poids deux fois plus petits que les précédens; c'est-à-dire, 529,10 pour le premier titre,
628,93 pour le second,

et l'on prendra aussi une pipette deux fois plus petite, ou la même pipette avec une liqueur deux fois plus faible. Dans la pratique, le premier moyen nous a paru préférable. La pipette, fig. 40, est mobile, à col très-étroit, et on en tient le bec constamment immergé dans un flacon contenant la dissolution normale et bien fermé avec un bouchon mastiqué sur la queue même de la pipette, pour empêcher toute évaporation.

On peut encore ajouter au demi-essai un demi-gramme d'argent fin, et procéder comme d'ordinaire. L'essai terminé, on retranchera pour le premier titre $\frac{945}{2} = 472{,}5$ de 945, et le double de la difference sera le titre cherché. Pour le deuxième titre, on retranchera $\frac{795}{2} = 397{,}5$ de 795, et le double de la différence sera aussi le titre cherché.

APPENDICE.

DANS la description du mode d'essai par voie humide, nous n'avons pas voulu détourner l'attention par de trop nombreux détails. Nous nous sommes bornés à exposer les procédés auxquels notre propre expérience nous avait fait donner la préférence, et nous avons promis de donner dans un appendice particulier ceux qui nous avaient semblé pouvoir être employés avantageusement dans quelques circonstances. C'est cette promesse que nous allons maintenant remplir.

Appareil pour peser la Dissolution Normale de Sel Marin.

L'appareil que nous allons décrire permet de peser la dissolution normale de sel marin plus rapidement qu'avec la burette fig. 1. C'est une pipette P, fig. 41, fournissant d'un jet continu à peu près 100 grammes de dissolution, lorsqu'elle a été remplie jusqu'au trait *a b* à une température ordinaire. Comme ce poids change de volume avec la température, quelques traits sont tracés sur le col de la pipette pour régler approximativement le volume de dissolution que l'on doit prendre. La pipette est terminée inférieurement par un robinet à trois pieds R, avec un appendice *p* d'un étroit diamètre (2 millimètres environ). On la remplit de dissolution, au moyen d'un petit entonnoir en argent, fig. 42, ou mieux en faisant au tube abducteur T de l'appareil, fig. 22, un appendice *t t* semblable à celui représenté fig. 41. On règle la pipette en enlevant le liquide en excès avec un tortillon de papier absorbant, ou en le faisant écouler par le robinet. Voici la manière de procéder.

La

(B.)
French Mint.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

La pipette étant réglée approximativement à un et même deux millièmes près, on la place dans la balance décrite fig 6 avec un poids constant équivalent, et on achève l'équilibre avec le curseur. On la porte alors au-dessus du flacon où a été dessous l'essai ; on ouvre le robinet pour faire écouler le liquide, et on le ferme aussitôt que le jet s'arrête. La pipette est remise dans la balance, avec un poids de 100 grammes, et au moyen du curseur on complète l'équilibre. Ce procédé est certainement plus expéditif que la pesée avec la burette, et il y aurait de l'avantage à l'employer dans le cas où l'on pèserait la dissolution normale de sel marin, au lieu de la mesurer au volume. On pourrait même faire la pesée un peu plus rapidement encore, en suspendant la pipette au fléau même de la balance. Si nous n'avons pas donné la préférence au moyen de peser la dissolution que nous venons de décrire, c'est parce que la burette, en raison de ses divisions, s'applique au cas où on voudrait opérer sur un alliage d'un titre quelconque en n'en prenant qu'un poids constant d'un gramme.

Appareil pour remplir la Pipette de Dissolution Normale par Aspiration, et la régler commodément.

Cet appareil est le premier que nous ayons employé, et il nous a servi long-temps. Nous le décrivons, parce qu'il nous paraît convenir aux personnes peu habituées aux manipulations. La figure 43 le fait suffisamment concevoir. Pour remplir la pipette, que nous supposons encore libre, on en plonge le bec dans un flacon contenant la dissolution normale de sel marin, et on y élève le liquide en aspirant l'air par le tube de verre T réuni à la douille D au moyen d'un bouchon de liége. On ferme ensuite le robinet R pendant que le tube est encore dans la bouche, et on place la pipette sur son support. Pour cela, on la prend de la main gauche par le col, on engage sa queue dans le bras inférieur, puis son col dans le bras supérieur dont on écarte un peu les deux lames avec les doigts. La pipette posée, de manière surtout que sa pointe ne puisse être endommagée par le flacon F qui doit recevoir la dissolution, on la règle au moyen de la vis V, pendant que l'on tient le mouchoir M appliqué contre son bec, et aussitôt qu'elle est réglée, on écarte le mouchoir avec l'une des mains, tandis qu'avec l'autre on avance le flacon F au-dessous pour y faire couler la dissolution.

Autre Appareil pour remplir la Pipette de Dissolution Normale de Sel Marin.

Dans cet appareil, fig 45, la pipette est mobile de bas en haut, pour aller chercher le tube *t*, qui verse la dissolution de sel marin, et qui s'engage dans le col de la pipette, à la manière d'un entonnoir. Pour obtenir ce mouvement ascensionnel, sans déviation latérale, la queue de la pipette passe dans un trou pratiqué dans la traverse AB, et le robinet adapté à son col porte deux ailes RR qui glissent dans des rainures pratiquées dans les deux montans MM. La course est réglée par deux bouchons B, *b*, mastiqués sur la queue de la pipette. Lorsqu'on veut la remplir, on applique l'index de la main gauche contre son orifice inférieur et on la soulève jusqu'à ce que le bouchon *b* touche la traverse. Par ce mouvement ascensionnel, le tube *t* entre dans le col de la pipette, et aussitôt après on ouvre le robinet du réservoir. Lorsqu'elle est remplie, on la descend, puis on ferme le robinet, on ôte le doigt et on la règle.

Le réservoir de la dissolution est mobile ; ce qui peut permettre aux essayeurs de garantie qui ont leur laboratoire séparé de leur habitation, et qui ne font que rarement des essais, de soustraire la dissolution à l'action de la gelée.

Appareil pour conserver constante la Température de la Dissolution Normale de Sel Marin.

La dissolution normale de sel marin a trop de masse pour qu'il soit facile d'en faire varier la température et de la ramener à un dégré déterminé. Cela serait même inutile ; car il suffit que la quantité de dissolution qui doit être consommée dans la journée ait la température constante voulue.

La dissolution, avant d'arriver de son réservoir à la pipette, fig. 46, traverse un flacon intermédiaire F, et c'est là que l'on fait varier convenablement sa température. Le flacon porte trois tubulures A, B, C. A la tubulure A est adapté un tube avec robinet, qui amène la dissolution dans le flacon ; la tubulure B porte un thermomètre centigrade qui fait connaître à chaque instant la température de la dissolution, et par la tubulure C passe la branche d'un syphon qui verse la dissolution dans la pipette. Le flacon est enveloppé d'une chemise en tôle *d, e, f, g*, d'un diamètre de trois à quatre centimètres plus grand ; l'espace intermédiaire est fermé dans le haut par un rebord que porte la chemise et par des bandes de papier appliquées à la colle. Le flacon repose sur une plaque en tôle, de même diamètre que le sien, fixée à la chemise par trois attaches ; mais il en est séparé par une feuille épaisse de carton, employée comme mauvais conducteur de la chaleur. Au-dessous de la plaque, à la distance de douze à quinze millimètres, en est une autre d'un plus petit diamètre, dont l'objet est d'amortir et d'éparpiller la chaleur trop vive d'une lampe à esprit de vin H, avec laquelle on élève la température de la dissolution de sel marin. L'air échauffé s'élève dans la cheminée annulaire, entre le flacon et son enveloppe, et s'échappe par de petites ouvertures circulaires h, h, &c. Cet appareil n'est propre qu'à échauffer la dissolution, car il serait trop difficile de la refroidir.

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

Moyens de se garantir de la Vapeur Nitreuse qui se dégage des Flacons dans l'Essai par la Voie Humide.

Après la dissolution de l'argent dans l'acide nitrique, nous avons recommandé de chasser la vapeur nitreuse qui reste dans les flacons en y projetant de l'air avec le soufflet fig. 13. Mais la dissolution restant imprégnée de vapeur nitreuse, continue à en exhaler, et ce n'est qu'après son refroidissement complet que le dégagement n'est presque plus sensible. Il est donc nécessaire de chercher à s'en garantir au moment où la dissolution est encore très-chaude, et la vapeur nitreuse très-abondante.

Au bec de la pipette, fig. 46, est adapté un entonnoir E, portant une tubulure latérale *t* ou simplement une ouverture, au moyen de laquelle il est mis en communication avec un tuyau TT de 3 à 4 centimètres de diamètre, aboutissant à une boîte D, dans laquelle est une lampe ou une chaufferette garnie de charbons ardens. L'air nécessaire à la combustion, ne pouvant arriver dans la boîte qu'en traversant l'entonnoir, entraîne la vapeur nitreuse que déplace la dissolution normale au moment où elle entre dans le flacon. De la boîte, la vapeur nitreuse s'échappe avec l'air par le tuyau *p*, soit dans une cheminée, soit en dehors du laboratoire. L'entonnoir porte une petite échancrure *o*, qui permet le passage du mouchoir pour arriver à la pipette.

Cet appareil est très-commode et remplit bien son objet; mais si les localités le permettent, il sera préférable d'employer le suivant :

Le bec de la pipette porte également un entonnoir, fig. 47 ; mais l'aspiration est déterminée par en bas, au moyen d'un tuyau TI, qui passe sous le sol, et s'élève ensuite dans la cheminée sous laquelle se font les dissolutions. Le cylindre *e e*, dans lequel se loge le flacon F, est enveloppé d'un autre cylindre *C C*, d'un diamètre d'environ deux centimètres plus grand. C'est par l'espace intermédiaire que se fait l'aspiration et que la vapeur nitreuse est entraînée. Mais pour qu'il n'en reste pas sous l'entonnoir, on fait aussi arriver l'air par quatre cannelures *o o* pratiquées le long du bouchon qui fixe l'entonnoir à la pipette. Enfin, pour ménager à l'entonnoir un mouvement facile d'ascension et de descente, une virole *i r*, portant extérieurement un pas de vis, est mastiquée sur la queue de la pipette, et c'est sur cette virole que tourne l'entonnoir. Le cylindre intérieur est lié avec l'extérieur par trois languettes longitudinales soudées avec chacun d'eux, en sorte que l'espace intermédiaire reste à peu près entièrement libre.

Prise d'Essai sur des Lingots.

Les lingots sont si rarement parfaitement homogènes, même à partir du titre de 950 millièmes, qu'il est certain que les différences qu'on remarque dans les essais d'échantillons pris en des endroits différens doivent, dans beaucoup de cas, être attribuées plutôt à cette cause qu'au procédé d'essai lui-même. Il importerait donc de prendre l'échantillon d'une manière uniforme et à la même profondeur tant sur la face supérieure des lingots que sur la face inférieure. On remplit parfaitement cette condition en forant les lingots avec un outil semblable à celui dont font usage les serruriers, et qu'on voit représenté dans la figure 48. Le lingot *L* est placé dans une cuvette en cuivre *C*, et pour retenir les copeaux qui pourraient être lancés, le foret *f* est enveloppé d'un manchon *m*, qui ne gêne point ses mouvemens et pose librement sur le lingot. Après quelques coups de forêt, on fait tombre avec une plume les premiere copeaux qui pourraient n'être pas purs, et on ne receuille que les suivans pour les soumettre à l'essai. Si l'on voulait essayer les faces latérales, il serait nécessaire d'avoir recours à des vis de pression pour maintenir le lingot dans telle position que l'on jugerait nécessaire.

Appareil pour le Départ dans l'Essai de l'Or.

Nous n'avons pas l'intention de traiter ici de l'essai des matières d'or; nous voulons seulement profiter de l'occasion pour faire connaître un appareil que nous avons établi depuis long-temps au laboratoire de garantie, et dont l'expérience nous a démontré les avantages. La figure 49 montre cet appareil de face et de profil.

Le matras d'essai M ayant reçu le cornet, on y met une quantité constante d'acide nitrique au moyen d'une pipette ; puis, lorsqu'on met le second acide, on ajoute un très-petit fragment de charbon pour empêcher les soubresauts et les fusées. La matras est porté par une plaque de tôle P P percée de trous, ou par une grille, et les vapeurs acides, avant de se rendre dans une cheminée, passent dans un tube de verre T d'environ deux centimètres de diamètre et d'un mètre de longueur, portant à chacune de ses extrémités un tube plus étroit *t*. Le tube inférieur s'engage, mais librement, dans le col du matras; et comme l'espace entre les deux tubes est assez étroit pour qu'une lame d'acide y reste suspendue et l'obstrue, les vapeurs sont obligées de se rendre dans le gros tube, où elles se condensent et retombent dans le matras. De cette manière la quantité d'acide employée aux essais peut être diminuée, puisqu'il ne s'en perd pas par l'évaporation, et les essais se trouvent faits dans des circonstances plus constantes. Il est nécessaire, pour que le passage reste toujours libre aux vapeurs, que l'extrémité inférieure du tube soit coupée de biais, comme on le voit en P ; la goutte d'acide se rassemble à la pointe, et ne ferme jamais le tube.

A la

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

A la hauteur du col de ce matras est une ouverture longitudinale H H, d'environ cinq centimètres de hauteur, par laquelle l'air peut entrer dans la cheminée qu'on suppose derrière. La face inférieure de cette ouverture est recouverte d'une feuille de verre inclinée du côté de la cheminée sur laquelle tombent les gouttes d'acide nitrique, lorsque les tubes sont retirés et supportés par la tablette N N. Ces gouttes, trop peu nombreuses pour être recueillies, s'évaporent et sont entraînées par le courant d'air dans la cheminée. En dessous de la plaque de verre, en est une autre en tôle, portant des échancrures *e*, *e*, pour y appuyer le col des matras et les empêcher de tomber.

Les matras sont chauffés à feu nu dans une caisse en tôle S S, dont le fond est percé et sert de grille ; mais pour que la chaleur s'y conserve mieux, elle est revêtue intérieurement d'une couche de terre.

TABLES servant à déterminer le Titre d'un Alliage d'Argent quelconque, en prenant des Poids

NITRATE D'ARGENT.

POIDS de la Prise d'Essai en Milligr.	TITRES.										
	0.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1000	1000.0	999.0	998.0	997.0	996.0	995.0	994.0	993.0	992.0	991.0	990.0
1005	995.0	994.0	993.0	992.0	991.0	990.0	989.0	988.1	987.1	986.1	985.1
1010	990.1	989.1	988.1	987.1	986.1	985.1	984.2	983.2	982.2	981.2	980.2
1015	985.2	984.2	983.2	982.3	981.3	980.3	979.3	978.3	977.3	976.4	975.4
1020	980.4	979.4	978.4	977.4	976.5	975.5	974.5	973.5	972.5	971.6	970.6
1025	975.6	974.6	973.7	972.7	971.7	970.7	969.8	968.8	967.8	966.8	965.8
1030	970.9	969.9	968.9	968.0	967.0	966.0	965.0	964.1	963.1	962.1	961.2
1035	966.2	965.2	964.2	963.3	962.3	961.3	960.4	959.4	958.4	957.5	956.5
1040	961.5	960.6	959.6	958.6	957.7	956.7	955.8	954.8	953.8	952.9	951.9
1045	956.9	956.0	955.0	954.1	953.1	952.1	951.2	950.2	949.3	948.3	947.4
1050	952.4	951.4	950.5	949.5	948.6	947.6	946.7	945.7	944.8	943.8	942.9
1055	947.9	946.9	946.0	945.0	944.1	943.1	942.2	941.2	940.3	939.3	938.4
1060	943.4	942.4	941.5	940.6	939.6	938.7	937.7	936.8	935.8	934.9	934.0
1065	939.0	938.0	937.1	936.1	935.2	934.3	933.3	932.4	931.4	930.5	929.6
1070	934.6	933.6	932.7	931.8	930.8	929.9	929.0	928.0	927.1	926.2	925.2
1075	930.2	929.3	928.4	927.4	926.5	925.6	924.7	923.7	922.8	921.9	920.9
1080	925.9	925.0	924.1	923.1	922.2	921.3	920.4	919.4	918.5	917.6	916.7
1085	921.7	920.7	919.8	918.9	918.0	917.0	916.1	915.2	914.3	913.4	912.4
1090	917.4	916.5	915.6	914.7	913.8	912.8	911.9	911.0	910.1	909.2	908.3
1095	913.2	912.3	911.4	910.5	909.6	908.7	907.8	906.8	905.9	905.0	904.1
1100	909.1	908.2	907.3	906.4	905.4	904.5	903.6	902.7	901.8	900.9	900.0
1105	905.0	904.1	903.2	902.3	901.4	900.4	899.5	898.6	897.7	896.8	895.9
1110	900.9	900.0	899 1	898.2	897.3	896.4	895.5	894.6	893.7	892.8	891.9
1115	896.9	896.0	895.1	894.2	893.3	892.4	891.5	890.6	889.7	888.8	887.9
1120	892.9	892.0	891.1	890.2	889.3	888.4	887.5	886.6	885.7	884.8	883.9
1125	888.9	888.0	887.1	886.2	885.3	884.4	883.6	882.7	881.8	880.9	880.0
1130	885.0	884.1	883.2	882.3	881.4	880.5	879.6	878.8	877.9	877.0	876.1
1135	881.1	880.2	879.3	878.4	877.5	876.7	875.8	874.9	874.0	873.1	872.3
1140	877.2	876.3	875.4	874.6	873.7	872.8	871.9	871.0	870.2	869.3	868.4
1145	873.4	872.5	871.6	870.7	869.9	869.0	868.1	867.2	866.4	865.5	864.6
1150	869.6	868.7	867.8	867.0	866.1	865.2	864.3	863.5	862.6	861.7	860.9
1155	865.8	864.9	864.1	863.2	862.3	861.5	860.6	859.7	858.9	858.0	857.1
1160	862.1	861.2	860.3	859.5	858.6	857.8	856.9	856.0	855.2	854.3	853.4
1165	858.4	857.5	856.6	855.8	854.9	854.1	853.2	852.4	851.5	850.6	849.8
1170	854.7	853.8	853.0	852.1	851.3	850.4	849.6	848.7	847.9	847.0	846.1
1175	851.1	850.2	849.4	848.5	847.7	846.8	846.0	845.1	844.3	843.4	842.5
1180	847.5	846.6	845.8	844.9	844.1	843.2	842.4	841.5	840.7	839.8	839.0
1185	843.9	843.0	842.2	841.3	840.5	839.7	838.8	838.0	837.1	836.3	835.4
1190	840.3	839.5	838.7	837.8	837.0	836.1	835.3	834.5	833.6	832.8	831.9
1195	836.8	836.0	835.1	834.3	833.5	832.6	831.8	831.0	830.1	829.3	828.4
1200	833.3	832.5	831.7	830.8	830.0	829.2	828.3	827.5	826.7	825.8	825.0
1205	829.9	829.0	828.2	827.4	826.6	825.7	824.9	824.1	823.2	822.4	821.6
1210	826.4	825.6	824.8	824.0	823.1	822.3	821.5	820.7	819.8	819.0	818.2
1215	823.0	822.2	821.4	820.6	819.7	818.9	818.1	817.3	816.5	815.6	814.8
1220	819.7	818.8	818.0	817.2	816.4	815.6	814.7	813.9	813.1	812.3	811.5
1225	816.3	815.5	814.7	813.9	813.1	812.2	811.4	810.6	809.8	809.0	808.2
1230	813.0	812.2	811.4	810.6	809.8	808.9	808.1	807.3	806.5	805.7	804.9
1235	809.7	808.9	808.1	807.3	806.5	805.7	804.9	804.0	803.2	802.4	801.6
1240	806.5	805.6	804.8	804.0	803.2	802.4	801.6	800.8	800.0	799.2	798.4
1245	803.2	802.4	801.6	800.8	800.0	799.2	798.4	797.6	796.8	796.0	795.2
1250	800.0	799.2	798.4	797.6	796.8	796.0	795.2	794.4	793.6	792.8	792.0
1255	796.8	796.0	795.2	794.4	793.6	792.8	792.0	791.2	790.4	789.6	788.8
1260	793.6	792.9	792.1	791.3	790.5	789.7	788.9	788.1	787.3	786.5	785.7
1265	790.5	789.7	788.9	788.1	787.3	786.6	785.8	785.0	784.2	783.4	782.6
1270	787.4	786.6	785.8	785.0	784.2	783.5	782.7	781.9	781.1	780.3	779.5
1275	784.3	783.5	782.7	782.0	781.2	780.4	779.6	778.8	778.0	777.3	776.5
1280	781.2	780.5	779.7	778.9	778.1	777.3	776.6	775.8	775.0	774.2	773.4
1285	778.2	777.4	776.6	775.9	775.1	774.3	773.5	772.8	772.0	771.2	770.4
1290	775.2	774.4	773.6	772.9	772.1	771.3	770.5	769.8	769.0	768.2	767.4
1295	772.2	771.4	770.7	769.9	769.1	768.3	767.6	766.8	766.0	765.2	764.5
1300	769.2	768.5	767.7	766.9	766.1	765.4	764.6	763.8	763.1	762.3	761.5
1305	766.3	765.5	764.7	764.0	763.2	762.4	761.7	760.9	760.1	759.4	758.6
1310	763.4	762.6	761.8	761.1	760.3	759.5	758.8	758.0	757.2	756.5	755.7
1315	760.5	759.7	758.9	758.2	757.4	756.6	755.9	755.1	754.4	753.6	752.8
1320	757.6	756.8	756.1	755.3	754.5	753.8	753.0	752.3	751.5	750.8	750.0
1325	754.7	754.0	753.2	752.4	751.7	750.9	750.2	749.4	748.7	747.9	747.2

de cet Alliage qui contiendraient toujours approximativement la même Quantité d'Argent pur.

SEL MARIN.

POIDS de la Prise d'Essai en Milligr.	TITRES.										
	0.	1.	2.	3	4.	5.	6.	7.	8.	9.	10.
1000	1000.0										
1005	995.0	996.0	997.0	998.0	999.0	1000.0					
1010	990.1	991.1	992.1	993.1	994.1	995.0	996.0	997.0	998.0	999.0	1000.0
1015	985.2	986.2	987.2	988.2	989.2	990.1	991.1	992.1	993.1	994.1	995.1
1020	980.4	981.4	982.4	983.3	984.3	985.3	986.3	987.2	988.2	989.2	990.2
1025	975.6	976.6	977.6	978.5	979.5	980.5	981.5	982.4	983.4	984.4	985.4
1030	970.9	971.8	972.8	973.8	974.8	975.7	976.7	977.7	978.6	979.6	980.6
1035	966.2	967.1	968.1	969.1	970.0	971.0	972.0	972.9	973.9	974.9	975.8
1040	961.5	962.5	963.5	964.4	965.4	966.3	967.3	968.3	969.2	970.2	971.1
1045	956.9	957.9	958.8	959.8	960.8	961.7	962.7	963.6	964.6	965.5	966.5
1050	952.4	953.3	954.3	955.2	956.2	957.1	958.1	959.0	960.0	960.9	961.9
1055	947.9	948.8	949.8	950.7	951.7	952.6	953.5	954.5	955.4	956.4	957.3
1060	943.4	944.3	945.3	946.2	947.2	948.1	949.1	950.0	950.9	951.9	952.8
1065	939.0	939.9	940.8	941.8	942.7	943.7	944.6	945.5	946.5	947.4	948.4
1070	934.6	935.5	936.4	937.4	938.3	939.3	940.2	941.1	942.1	943.0	943.9
1075	930.2	931.2	932.1	933.0	933.9	934.9	935.8	936.7	937.7	938.6	939.5
1080	925.9	926.8	927.8	928.7	929.6	930.6	931.5	932.4	933.3	934.3	935.2
1085	921.7	922.6	923.5	924.4	925.3	926.3	927.2	928.1	929.0	930.0	930.9
1090	917.4	918.3	919.3	920.2	921.1	922.0	922.9	923.8	924.8	925.7	926.6
1095	913.2	914.2	915.1	916.0	917.0	917.8	918.7	919.6	920.5	921.5	922.4
1100	909.1	910.0	910.9	911.8	912.7	913.6	914.5	915.4	916.4	917.3	918.2
1105	905.0	905.9	906.8	907.7	908.6	909.5	910.4	911.3	912.2	913.1	914.0
1110	900.9	901.8	902.7	903.6	904.5	905.4	906.3	907.2	908.1	909.0	909.9
1115	896.9	897.8	898.6	899.5	900.4	901.3	902.2	903.1	904.0	904.9	905.8
1120	892.9	893.7	894.6	895.5	896.4	897.3	898.2	899.1	900.0	900.9	901.8
1125	888.9	889.8	890.7	891.6	892.4	893.3	894.2	895.1	896.0	896.9	897.8
1130	885.0	885.8	886.7	887.6	888.5	889.4	890.3	891.1	892.0	892.9	893.8
1135	881.1	881.9	882.8	883.7	884.6	885.5	886.3	887.2	888.1	889.0	889.9
1140	877.2	878.1	878.9	879.8	880.7	881.6	882.5	883.3	884.2	885.1	886.0
1145	873.4	874.2	875.1	876.0	876.9	877.7	878.6	879.5	880.3	881.2	882.1
1150	869.6	870.4	871.3	872.2	873.0	873.9	874.8	875.7	876.5	877.4	878.3
1155	865.8	866.7	867.5	868.4	869.3	870.1	871.0	871.9	872.7	873.6	874.5
1160	862.1	862.9	863.8	864.7	865.5	866.4	867.2	868.1	869.0	869.8	870.7
1165	858.4	859.2	860.1	860.9	861.8	862.7	863.5	864.4	865.2	866.1	866.9
1170	854.7	855.6	856.4	857.3	858.1	859.0	859.8	860.7	861.5	862.4	863.2
1175	851.1	851.9	852.8	853.6	854.5	855.3	856.2	857.0	857.9	858.7	859.6
1180	847.5	848.3	849.2	850.0	850.8	851.7	852.5	853.4	854.2	855.1	855.9
1185	843.9	844.7	845.6	846.4	847.3	848.1	848.9	849.8	850.6	851.5	852.3
1190	840.3	841.2	842.0	842.9	843.7	844.5	845.4	846.2	847.1	847.9	848.7
1195	836.8	837.7	838.5	839.3	840.2	841.0	841.8	842.7	843.5	844.3	845.2
1200	833.3	834.2	835.0	835.8	836.7	837.5	838.3	839.2	840.0	840.8	841.7
1205	829.9	830.7	831.5	832.4	833.2	834.0	834.8	835.7	836.5	837.3	838.2
1210	826.4	827.3	828.1	828.9	829.7	830.6	831.4	832.2	833.1	833.9	834.7
1215	823.0	823.9	824.7	825.5	826.3	827.2	828.0	828.8	829.6	830.4	831.3
1220	819.7	820.5	821.3	822.1	822.9	823.8	824.6	825.4	826.2	827.0	827.9
1225	816.3	817.1	818.0	818.8	819.6	820.4	821.2	822.0	822.9	823.7	824.5
1230	813.0	813.8	814.6	815.4	816.3	817.1	817.9	818.7	819.5	820.3	821.1
1235	809.7	810.5	811.3	812.1	813.0	813.8	814.6	815.4	816.2	817.0	817.8
1240	806.5	807.3	808.1	808.9	809.7	810.5	811.3	812.1	812.9	813.7	814.5
1245	803.2	804.0	804.8	805.6	806.4	807.2	808.0	808.8	809.6	810.4	811.2
1250	800.0	800.8	801.6	802.4	803.2	804.0	804.8	805.6	806.4	807.2	808.0
1255	796.8	797.6	798.4	799.2	800.0	800.8	801.6	802.4	803.2	804.0	804.8
1260	793.7	794.4	795.2	796.0	796.8	797.6	798.4	799.2	800.0	800.8	801.6
1265	790.5	791.3	792.1	792.9	793.7	794.5	795.3	796.0	796.8	797.6	798.4
1270	787.4	788.2	789.0	789.8	790.5	791.3	792.1	792.9	793.7	794.5	795.3
1275	784.3	785.1	785.9	786.7	787.4	788.2	789.0	789.8	790.6	791.4	792.2
1280	781.2	782.0	782.8	783.6	784.4	785.2	786.0	786.7	787.5	788.3	789.1
1285	778.2	779.0	779.8	780.5	781.3	782.1	782.9	783.7	784.4	785.2	786.0
1290	775.2	776.0	776.7	777.5	778.3	779.1	779.8	780.6	781.4	782.2	782.9
1295	772.2	773.0	773.7	774.5	775.3	776.1	776.8	777.6	778.4	779.1	779.9
1300	769.2	770.0	770.8	771.5	772.3	773.1	773.8	774.6	775.4	776.1	776.9
1305	766.3	767.0	767.8	768.6	769.3	770.1	770.9	771.6	772.4	773.2	773.9
1310	763.4	764.1	764.9	765.6	766.4	767.2	767.9	768.7	769.5	770.2	771.0
1315	760.5	761.2	762.0	762.7	763.5	764.3	765.0	765.8	766.5	767.3	768.1
1320	757.6	758.3	759.1	759.8	760.6	761.4	762.1	762.9	763.6	764.4	765.2
1325	754.7	755.5	756.2	757.0	757.7	758.5	759.2	760.0	760.7	761.5	762.3

NITRATE D'ARGENT.

POIDS de la Prise d'Essai en Milligr.	TITRES.										
	0.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1330	751·9	751·1	750·4	749·6	748·9	748·1	747·4	746·6	745·9	745·1	744·4
1335	749·1	748·3	747·6	746·8	746·1	745·3	744·6	743·8	743·1	742·3	741·6
1340	746·3	745·5	744·8	744·0	743·3	742·5	741·8	741·0	740·3	739·5	738·8
1345	743·5	742·7	742·0	741·3	740·5	739·8	739·0	738·3	737·5	736·8	736·1
1350	740·7	740·0	739·3	738·5	737·8	737·0	736·3	735·6	734·8	734·1	733·3
1355	738·0	737·3	736·5	735·8	735·1	734·3	733·6	732·8	732·1	731·4	730·6
1360	735·3	734·6	733·8	733·1	732·4	731·6	730·9	730·1	729·4	728·7	727·9
1365	732·6	731·9	731·1	730·4	729·7	728·9	728·2	727·5	726·7	726·0	725·3
1370	729·9	729·2	728·5	727·7	727·0	726·3	725·5	724·8	724·1	723·4	722·6
1375	727·3	726·5	725·8	725·1	724·4	723·6	722·9	722·2	721·4	720·7	720·0
1380	724·6	723·9	723·2	722·5	721·7	721·0	720·3	719·6	718·8	718·1	717·4
1385	722·0	721·3	720·6	719·9	719·1	718·4	717·7	717·0	716·2	715·5	714·8
1390	719·4	718·7	718·0	717·3	716·5	715·8	715·1	714·4	713·7	712·9	712·2
1395	716·8	716·1	715·4	714·7	714·0	713·3	712·5	711·8	711·1	710·4	709·7
1400	714·3	713·6	712·9	712·1	711·4	710·7	710·0	709·3	708·6	707·9	707·1
1405	711·7	711·0	710·3	709·6	708·9	708·2	707·5	706·8	706·0	705·3	704·6
1410	709·2	708·5	707·8	707·1	706·4	705·7	705·0	704·3	703·5	702·8	702·1
1415	706·7	706·0	705·3	704·6	703·9	703·2	702·5	701·8	701·1	700·3	699·6
1420	704·2	703·5	702·8	702·1	701·4	700·7	700·0	699·3	698·6	697·9	697·2
1425	701·8	701·0	700·3	699·6	698·9	698·2	697·5	696·8	696·1	695·4	694·7
1430	699·3	698·6	697·9	697·2	696·5	695·8	695·1	694·4	693·7	693·0	692·3
1435	696·9	696·2	695·5	694·8	694·1	693·4	692·7	692·0	691·3	690·6	689·9
1440	694·4	693·7	693·1	692·4	691·7	691·0	690·3	689·6	688·9	688·2	687·5
1445	692·0	691·3	690·7	690·0	689·3	688·6	687·9	687·2	686·5	685·8	685·1
1450	689·7	689·0	688·3	687·6	686·9	686·2	685·5	684·8	684·1	683·4	682·8
1455	687·3	686·6	685·9	685·2	684·5	683·8	683·2	682·5	681·8	681·1	680·4
1460	684·9	684·2	683·6	682·9	682·2	681·5	680·8	680·1	679·4	678·8	678·1
1465	682·6	681·9	681·2	680·6	679·9	679·2	678·5	677·8	677·1	676·4	675·8
1470	680·3	679·6	678·9	678·2	677·5	676·9	676·2	675·5	674·8	674·1	673·5
1475	678·0	677·3	676·6	675·9	675·2	674·6	673·9	673·2	672·5	671·9	671·2
1480	675·7	675·0	674·3	673·6	673·0	672·3	671·6	670·9	670·3	669·6	668·9
1485	673·4	672·7	672·0	671·4	670·7	670·0	669·4	668·7	668·0	667·3	666·7
1490	671·1	670·5	669·8	669·1	668·5	667·8	667·1	666·4	665·8	665·1	664·4
1495	668·9	668·2	667·6	666·9	666·2	665·5	664·9	664·2	663·5	662·9	662·2
1500	666·7	666·0	665·3	664·7	664·0	663·3	662·7	662·0	661·3	660·7	660·0
1505	664·5	663·8	663·1	662·5	661·8	661·1	660·5	659·8	659·1	658·5	657·8
1510	662·3	661·6	660·9	660·3	659·6	658·9	658·3	657·6	656·9	656·3	655·6
1515	660·1	659·4	658·7	658·1	657·4	656·8	656·1	655·4	654·8	654·1	653·5
1520	657·9	657·2	656·6	655·9	655·3	654·6	653·9	653·3	652·6	652·0	651·3
1525	655·7	655·1	654·4	653·8	653·1	652·5	651·8	651·1	650·5	649·8	649·2
1530	653·6	652·9	652·3	651·6	651·0	650·3	649·7	649·0	648·4	647·7	647·1
1535	651·5	650·8	650·2	649·5	648·9	648·2	647·6	646·9	646·2	645·6	644·9
1540	649·4	648·7	648·0	647·4	646·7	646·1	645·4	644·8	644·2	643·5	642·9
1545	647·2	646·6	645·9	645·3	644·7	644·0	643·4	642·7	642·1	641·4	640·8
1550	645·2	644·5	643·9	643·2	642·6	641·9	641·3	640·6	640·0	639·3	638·7
1555	643·1	642·4	641·8	641·2	640·5	639·9	639·2	638·6	637·9	637·3	636·7
1560	641·0	640·4	639·7	639·1	638·5	637·8	637·2	636·5	635·9	635·3	634·6
1565	639·0	638·3	637·7	637·1	636·4	635·8	635·1	634·5	633·9	633·2	632·6
1570	636·9	636·3	635·7	635·0	634·4	633·8	633·1	632·5	631·8	631·2	630·6
1575	634·9	634·3	633·6	633·0	632·4	631·7	631·1	630·5	629·8	629·2	628·6
1580	632·9	632·3	631·6	631·0	630·4	629·7	629·1	628·5	627·8	627·2	626·6
1585	630·9	630·3	629·6	629·0	628·4	627·8	627·1	626·5	625·9	625·2	624·6
1590	628·9	628·3	627·7	627·0	626·4	625·8	625·2	624·5	623·9	623·3	622·6
1595	627·0	626·3	625·7	625·1	624·4	623·8	623·2	622·6	621·9	621·3	620·7
1600	625·0	624·4	623·7	623·1	622·5	621·9	621·2	620·6	620·0	619·4	618·7
1605	623·1	622·4	621·8	621·2	620·6	619·9	619·3	618·7	618·1	617·4	616·8
1610	621·1	620·5	619·9	619·2	618·6	618·0	617·4	616·8	616·1	615·5	614·9
1615	619·2	618·6	618·0	617·3	616·7	616·1	615·5	614·9	614·2	613·6	613·0
1620	617·3	616·7	616·0	615·4	614·8	614·2	613·6	613·0	612·3	611·7	611·1
1625	615·4	614·8	614·1	613·5	612·9	612·3	611·7	611·1	610·5	609·8	609·2
1630	613·5	612·9	612·3	611·7	611·0	610·4	609·8	609·2	608·6	608·0	607·4
1635	611·6	611·0	610·4	609·8	609·2	608·6	607·9	607·3	606·7	606·1	605·5
1640	609·8	609·1	608·5	607·9	607·3	606·7	606·1	605·5	604·9	604·3	603·7
1645	607·9	607·3	606·7	606·1	605·5	604·9	604·3	603·6	603·0	602·4	601·8
1650	606·1	605·4	604·8	604·2	603·6	603·0	602·4	601·8	601·2	600·6	600·0
1655	604·2	603·6	603·0	602·4	601·8	601·2	600·6	600·0	599·4	598·8	598·2
1660	602·4	601·8	601·2	600·6	600·0	599·4	598·8	598·2	597·6	597·0	596·4
1665	600·6	600·0	599·4	598·8	598·2	597·6	597·0	596·4	595·8	595·2	594·6
1670	598·8	598·2	597·6	597·0	596·4	595·8	595·2	594·6	594·0	593·4	592·8
1675	597·0	596·4	595·8	595·2	594·6	594·0	593·4	592·8	592·2	591·6	591·0
1680	595·2	594·6	594·0	593·4	592·9	592·3	591·7	591·1	590·5	589·9	589·3
1685	593·5	592·9	592·3	591·7	591·1	590·5	589·9	589·3	588·7	588·1	587·5

SEL MARIN.

POIDS de la Prise d'Essai en Milligr.	TITRES.										
	0.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1330	751·9	752·6	753·4	754·1	754·9	755·6	756·4	757·1	757·9	758·6	759·4
1335	749·1	749·8	750·6	751·3	752·1	752·8	753·6	754·3	755·1	755·8	756·6
1340	746·3	747·0	747·8	748·5	749·2	750·0	750·7	751·5	752·2	753·0	753·7
1345	743·5	744·2	745·0	745·7	746·5	747·2	748·0	748·7	749·4	750·2	750·9
1350	740·7	741·5	742·2	743·0	743·7	744·4	745·2	745·9	746·7	747·4	748·1
1355	738·0	738·7	739·5	740·2	741·0	741·7	742·4	743·2	743·9	744·6	745·4
1360	735·3	736·0	736·8	737·5	738·2	739·0	739·7	740·4	741·2	741·9	742·6
1365	732·6	733·3	734·1	734·8	735·5	736·3	737·0	737·7	738·5	739·2	739·9
1370	729·9	730·7	731·4	732·1	732·8	733·6	734·3	735·0	735·8	736·5	737·2
1375	727·3	728·0	728·7	729·4	730·2	730·9	731·6	732·4	733·2	733·8	734·5
1380	724·6	725·4	726·1	726·8	727·5	728·3	729·0	729·7	730·4	731·2	731·9
1385	722·0	722·7	723·5	724·2	724·9	725·6	726·3	727·1	727·8	728·5	729·2
1390	719·4	720·1	720·9	721·6	722·3	723·0	723·7	724·5	725·2	725·9	726·6
1395	716·8	717·6	718·3	719·0	719·7	720·4	721·1	721·9	722·6	723·3	724·0
1400	714·3	715·0	715·7	716·4	717·1	717·9	718·6	719·3	720·0	720·7	721·4
1405	711·7	712·5	713·2	713·9	714·6	715·3	716·0	716·7	717·4	718·1	718·9
1410	709·2	709·9	710·6	711·3	712·1	712·8	713·5	714·2	714·9	715·6	716·3
1415	706·7	707·4	708·1	708·8	709·5	710·2	710·9	711·7	712·4	713·1	713·8
1420	704·2	704·9	705·6	706·3	707·0	707·7	708·4	709·2	709·9	710·6	711·3
1425	701·8	702·5	703·2	703·9	704·6	705·3	706·0	706·7	707·4	708·1	708·8
1430	699·3	700·0	700·7	701·4	702·1	702·8	703·5	704·2	704·9	705·6	706·3
1435	696·9	697·6	698·3	698·9	699·6	700·3	701·0	701·7	702·4	703·1	703·8
1440	694·4	695·1	695·8	696·5	697·2	697·9	698·6	699·3	700·0	700·7	701·4
1445	692·0	692·7	693·4	694·1	694·8	695·5	696·2	696·9	697·6	698·3	699·0
1450	689·7	690·3	691·0	691·7	692·4	693·1	693·8	694·5	695·2	695·9	696·6
1455	687·3	688·0	688·7	689·3	690·0	690·7	691·4	692·1	692·8	693·5	694·2
1460	684·9	685·6	686·3	687·0	687·7	688·4	689·0	689·7	690·4	691·1	691·8
1465	682·6	683·3	684·0	684·6	685·3	686·0	686·7	687·4	688·0	688·7	689·4
1470	680·3	680·9	681·6	682·3	683·0	683·7	684·3	685·0	685·7	686·4	687·1
1475	678·0	678·6	679·3	680·0	680·7	681·4	682·0	682·7	683·4	684·1	684·7
1480	675·7	676·3	677·0	677·7	678·4	679·1	679·7	680·4	681·1	681·8	682·4
1485	673·4	674·1	674·7	675·4	676·1	676·8	677·4	678·1	678·8	679·5	680·1
1490	671·1	671·8	672·5	673·1	673·8	674·5	675·2	675·8	676·5	677·2	677·8
1495	668·9	669·6	670·2	670·9	671·6	672·2	672·9	673·6	674·2	674·9	675·6
1500	666·7	667·3	668·0	668·7	669·3	670·0	670·7	671·3	672·0	672·7	673·3
1505	664·5	665·1	665·8	666·4	667·1	667·8	668·4	669·1	669·8	670·4	671·1
1510	662·3	662·9	663·6	664·2	664·9	665·6	666·2	666·9	667·5	668·2	668·9
1515	660·1	660·7	661·4	662·0	662·7	663·4	664·0	664·7	665·3	666·0	666·7
1520	657·9	658·5	659·2	659·9	660·5	661·2	661·8	662·5	663·2	663·8	664·5
1525	655·7	656·4	657·0	657·7	658·4	659·0	659·7	660·3	661·0	661·6	662·3
1530	653·6	654·2	654·9	655·6	656·2	656·9	657·5	658·2	658·8	659·5	660·1
1535	651·5	652·1	652·8	653·4	654·1	654·7	655·4	656·0	656·7	657·3	658·0
1540	649·4	650·0	650·6	651·3	651·9	652·6	653·2	653·9	654·5	655·2	655·8
1545	647·2	647·9	648·5	649·2	649·8	650·5	651·1	651·8	652·4	653·1	653·7
1550	645·2	645·8	646·4	647·1	647·7	648·4	649·0	649·7	650·3	651·0	651·6
1555	643·1	643·7	644·4	645·0	645·7	646·3	646·9	647·6	648·2	648·9	649·5
1560	641·0	641·7	642·3	642·9	643·6	644·2	644·9	645·5	646·1	646·8	647·4
1565	639·0	639·6	640·3	640·9	641·5	642·2	642·8	643·4	644·1	644·7	645·4
1570	636·9	637·6	638·2	638·8	639·5	640·1	640·8	641·4	642·0	642·7	643·3
1575	634·9	635·6	636·2	636·8	637·5	638·1	638·7	639·4	640·0	640·6	641·3
1580	632·9	633·5	634·2	634·8	635·4	636·1	636·7	637·3	638·0	638·6	639·2
1585	630·9	631·5	632·2	632·8	633·4	634·1	634·7	635·3	636·0	636·6	637·2
1590	628·9	629·6	630·2	630·8	631·4	632·1	632·7	633·3	634·0	634·6	635·2
1595	627·0	627·6	628·2	628·8	629·5	630·1	630·7	631·3	632·0	632·6	633·2
1600	625·0	625·6	626·2	626·9	627·5	628·1	628·7	629·4	630·0	630·6	631·2
1605	623·1	623·7	624·3	624·9	625·5	626·2	626·8	627·4	628·0	628·7	629·3
1610	621·1	621·7	622·4	623·0	623·6	624·2	624·8	625·5	626·1	626·7	627·3
1615	619·2	619·8	620·4	621·0	621·7	622·3	622·9	623·5	624·1	624·8	625·4
1620	617·3	617·9	618·5	619·1	619·7	620·4	621·0	621·6	622·2	622·8	623·5
1625	615·4	616·0	616·6	617·2	617·8	618·5	619·1	619·7	620·3	620·9	621·5
1630	613·5	614·1	614·7	615·3	615·9	616·6	617·2	617·8	618·4	619·0	619·6
1635	611·6	612·2	612·8	613·5	614·1	614·7	615·3	615·9	616·5	617·1	617·7
1640	609·8	610·4	611·0	611·6	612·2	612·8	613·4	614·0	614·6	615·2	615·8
1645	607·9	608·5	609·1	609·7	610·3	610·9	611·5	612·2	612·8	613·4	614·0
1650	606·1	606·7	607·3	607·9	608·5	609·1	609·7	610·3	610·9	611·5	612·1
1655	604·2	604·8	605·4	606·0	606·6	607·2	607·8	608·5	609·1	609·7	610·3
1660	602·4	603·0	603·6	604·2	604·8	605·4	606·0	606·6	607·2	607·8	608·4
1665	600·6	601·2	601·8	602·4	603·0	603·6	604·2	604·8	605·4	606·0	606·6
1670	598·8	599·4	600·0	600·6	601·2	601·8	602·4	603·0	603·6	604·2	604·8
1675	597·0	597·6	598·2	598·8	599·4	600·0	600·6	601·2	601·8	602·4	603·0
1680	595·2	595·8	596·4	597·0	597·6	598·2	598·8	599·4	600·0	600·6	601·2
1685	593·5	594·1	594·7	595·2	595·8	596·4	597·0	597·6	598·2	598·8	599·4

NITRATE D'ARGENT.

POIDS de la Prise d'Essai, en Milligr.	TITRES.										
	0.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1690	591.7	591.1	590.5	589.9	589.3	588.8	588.2	587.6	587.0	586.4	585.8
1695	590.0	589.4	588.8	588.2	587.6	587.0	586.4	585.8	585.2	584.7	584.1
1700	588.2	587.6	587.1	586.5	585.9	585.3	584.7	584.1	583.5	582.9	582.3
1705	586.5	585.9	585.3	584.7	584.2	583.6	583.0	582.4	581.8	581.2	580.6
1710	584.8	584.2	583.6	583.0	582.5	581.9	581.3	580.7	580.1	579.5	578.9
1715	583.1	582.5	581.9	581.3	580.8	580.2	579.6	579.0	578.4	577.8	577.3
1720	581.4	580.8	580.2	579.6	579.1	578.5	577.9	577.3	576.7	576.2	575.6
1725	579.7	579.1	578.5	578.0	577.4	576.8	576.2	575.6	575.1	574.5	573.9
1730	578.0	577.5	576.9	576.3	575.7	575.1	574.6	574.0	573.4	572.8	572.2
1735	576.4	575.8	575.2	574.6	574.1	573.5	572.9	572.3	571.8	571.2	570.6
1740	574.7	574.1	573.6	573.0	572.4	571.8	571.3	570.7	570.1	569.5	569.0
1745	573.1	572.5	571.9	571.3	570.8	570.2	569.6	569.0	568.5	567.9	567.3
1750	571.4	570.9	570.3	569.7	569.1	568.6	568.0	567.4	566.9	566.3	565.7
1755	569.8	569.2	568.7	568.1	567.5	566.9	566.4	565.8	565.2	564.7	564.1
1760	568.2	567.6	567.0	566.5	565.9	565.3	564.8	564.2	563.6	563.1	562.5
1765	566.6	566.0	565.4	564.9	564.3	563.7	563.2	562.6	562.0	561.5	560.9
1770	565.0	564.4	563.8	563.3	562.7	562.1	561.6	561.0	560.4	559.9	559.3
1775	563.4	562.8	562.2	561.7	561.1	560.6	560.0	559.4	558.9	558.3	557.7
1780	561.8	561.2	560.7	560.1	559.5	559.0	558.4	557.9	557.3	556.7	556.2
1785	560.2	559.7	559.1	558.5	558.0	557.4	556.9	556.3	555.7	555.2	554.6
1790	558.7	558.1	557.5	557.0	556.4	555.9	555.3	554.7	554.2	553.6	553.1
1795	557.1	556.5	556.0	555.4	554.9	554.3	553.8	553.2	552.6	552.1	551.5
1800	555.6	555.0	554.4	553.9	553.3	552.8	552.2	551.7	551.1	550.6	550.0
1805	554.0	553.5	552.9	552.3	551.8	551.2	550.7	550.1	549.6	549.0	548.5
1810	552.5	551.9	551.4	550.8	550.3	549.7	549.2	548.6	548.1	547.5	547.0
1815	551.0	550.4	549.9	549.3	548.8	548.2	547.7	547.1	546.6	546.0	545.5
1820	549.4	548.9	548.3	547.8	547.2	546.7	546.2	545.6	545.1	544.5	544.0
1825	547.9	547.4	546.8	546.3	545.7	545.2	544.7	544.1	543.6	543.0	542.5
1830	546.4	545.9	545.4	544.8	544.3	543.7	543.2	542.6	542.1	541.5	541.0
1835	545.0	544.4	543.9	543.3	542.8	542.2	541.7	541.1	540.6	540.0	539.5
1840	543.5	542.9	542.4	541.8	541.3	540.8	540.2	539.7	539.1	538.6	538.0
1845	542.0	541.5	540.9	540.4	539.8	539.3	538.7	538.2	537.7	537.1	536.6
1850	540.5	540.0	539.5	538.9	538.4	537.8	537.3	536.8	536.2	535.7	535.1
1855	539.1	538.5	538.0	537.5	536.9	536.4	535.8	535.3	534.8	534.2	533.7
1860	537.6	537.1	536.6	536.0	535.5	534.9	534.4	533.9	533.3	532.8	532.3
1865	536.2	535.7	535.1	534.6	534.0	533.5	533.0	532.4	531.9	531.4	530.8
1870	534.8	534.2	533.7	533.2	532.6	532.1	531.5	531.0	530.5	529.9	529.4
1875	533.3	532.8	532.3	531.7	531.2	530.7	530.1	529.6	529.1	528.5	528.0
1880	531.9	531.4	530.8	530.3	529.8	529.3	528.7	528.2	527.7	527.1	526.6
1885	530.5	530.0	529.4	528.9	528.4	527.8	527.3	526.8	526.3	525.7	525.2
1890	529.1	528.6	528.0	527.5	527.0	526.5	525.9	525.4	524.9	524.3	523.8
1895	527.7	527.2	526.6	526.1	525.6	525.1	524.5	524.0	523.5	523.0	522.4
1900	526.3	525.8	525.3	524.7	524.2	523.7	523.2	522.6	522.1	521.6	521.0
1905	524.9	524.4	523.9	523.4	522.8	522.3	521.8	521.3	520.7	520.2	519.7
1910	523.6	523.0	522.5	522.0	521.5	520.9	520.4	519.9	519.4	518.8	518.3
1915	522.2	521.7	521.1	520.6	520.1	519.6	519.1	518.5	518.0	517.5	517.0
1920	520.8	520.3	519.8	519.3	518.7	518.2	517.7	517.2	516.7	516.1	515.6
1925	519.5	519.0	518.4	517.9	517.4	516.9	516.4	515.8	515.3	514.8	514.3
1930	518.1	517.6	517.1	516.6	516.1	515.5	515.0	514.5	514.0	513.5	512.9
1935	516.8	516.3	515.8	515.2	514.7	514.2	513.7	513.2	512.7	512.1	511.6
1940	515.5	514.9	514.4	513.9	513.4	512.9	512.4	511.9	511.3	510.8	510.3
1945	514.1	513.6	513.1	512.6	512.1	511.6	511.0	510.5	510.0	509.5	509.0
1950	512.8	512.3	511.8	511.3	510.8	510.3	509.7	509.2	508.7	508.2	507.7
1955	511.5	511.0	510.5	510.0	509.5	508.9	508.4	507.9	507.4	506.9	506.4
1960	510.2	509.7	509.2	508.7	508.2	507.6	507.1	506.6	506.1	505.6	505.1
1965	508.9	508.4	507.9	507.4	506.9	506.4	505.8	505.3	504.8	504.3	503.8
1970	507.6	507.1	506.6	506.1	505.6	505.1	504.6	504.1	503.5	503.0	502.5
1975	506.3	505.8	505.3	504.8	504.3	503.8	503.3	502.8	502.3	501.8	501.3
1980	505.0	504.5	504.0	503.5	503.0	502.5	502.0	501.5	501.0	500.5	500.0
1985	503.8	503.3	502.8	502.3	501.8	501.3	500.8	500.2	499.7	499.2	498.7
1990	502.5	502.0	501.5	501.0	500.5	500.0	499.5	499.0	498.5	498.0	497.5
1995	501.3	500.7	500.2	499.7	499.2	498.7	498.2	497.7	497.2	496.7	496.2
2000	500.0	499.5	499.0	498.5	498.0	497.5	497.0	496.5	496.0	495.5	495.0

SEL MARIN.

POIDS de la Prise d'Essai en Milligr.	TITRES.										
	0.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1690	591·7	592·3	592·9	593·5	594·1	594·7	595·3	595·9	596·4	597·0	597·6
1695	590·0	590·6	591·1	591·7	592·3	592·9	593·5	594·1	594·7	595·3	595·9
1700	588·2	588·8	589·4	590·0	590·6	591·2	591·8	592·3	592·9	593·5	594·1
1705	586·5	587·1	587·7	588·3	588·9	589·4	590·0	590·6	591·2	591·8	592·4
1710	584·8	585·4	586·0	586·5	587·1	587·7	588·3	588·9	589·5	590·1	590·6
1715	583·1	583·7	584·3	584·8	585·4	586·0	586·6	587·2	587·8	588·3	588·9
1720	581·4	582·0	582·6	583·1	583·7	584·3	584·9	585·5	586·0	586·6	587·2
1725	579·7	580·3	580·9	581·4	582·0	582·6	583·2	583·8	584·3	584·9	585·5
1730	578·0	578·6	579·2	579·8	580·3	580·9	581·5	582·1	582·7	583·2	583·8
1735	576·4	576·9	577·5	578·1	578·7	579·2	579·8	580·4	581·0	581·6	582·1
1740	574·7	575·3	575·9	576·4	577·0	577·6	578·2	578·7	579·3	579·9	580·5
1745	573·1	573·6	574·2	574·8	575·4	575·9	576·5	577·1	577·6	578·2	578·8
1750	571·4	572·0	572·6	573·1	573·7	574·3	574·9	575·4	576·0	576·6	577·1
1755	569·8	570·4	570·9	571·5	572·1	572·6	573·2	573·8	574·4	574·9	575·5
1760	568·2	568·7	569·3	569·9	570·4	571·0	571·6	572·2	572·7	573·3	573·9
1765	566·6	567·1	567·7	568·3	568·8	569·4	570·0	570·5	571·1	571·7	572·2
1770	565·0	565·5	566·1	566·7	567·2	567·8	568·4	568·9	569·5	570·1	570·6
1775	563·4	563·9	564·5	565·1	565·6	566·2	566·8	567·3	567·9	568·4	569·0
1780	561·8	562·4	562·9	563·5	564·0	564·6	565·2	565·7	566·3	566·8	567·4
1785	560·2	560·8	561·3	561·9	562·5	563·0	563·6	564·1	564·7	565·3	565·8
1790	558·7	559·2	559·8	560·3	560·9	561·4	562·0	562·6	563·1	563·7	564·2
1795	557·1	557·7	558·2	558·8	559·3	559·9	560·4	561·0	561·6	562·1	562·7
1800	555·6	556·1	556·7	557·2	557·8	558·3	558·9	559·4	560·0	560·6	561·1
1805	554·0	554·6	555·1	555·7	556·2	556·8	557·3	557·9	558·4	559·0	559·6
1810	552·5	553·0	553·6	554·1	554·7	555·2	555·8	556·3	556·9	557·5	558·0
1815	551·0	551·5	552·1	552·6	553·2	553·7	554·3	554·8	555·4	555·9	556·5
1820	549·4	550·0	550·5	551·1	551·6	552·2	552·7	553·3	553·8	554·4	554·9
1825	547·9	548·5	549·0	549·6	550·1	550·7	551·2	551·8	552·3	552·9	553·4
1830	546·4	547·0	547·5	548·1	548·6	549·2	549·7	550·3	550·8	551·4	551·9
1835	545·0	545·5	546·0	546·6	547·1	547·7	548·2	548·8	549·3	549·9	550·4
1840	543·5	544·0	544·6	545·1	545·6	546·2	546·7	547·3	547·8	548·4	548·9
1845	542·0	542·5	543·1	543·6	544·2	544·7	545·3	545·8	546·3	546·9	547·4
1850	540·5	541·1	541·6	542·2	542·7	543·2	543·8	544·3	544·9	545·4	545·9
1855	539·1	539·6	540·2	540·7	541·2	541·8	542·3	542·9	543·4	543·9	544·5
1860	537·6	538·2	538·7	539·2	539·8	540·3	540·9	541·4	541·9	542·5	543·0
1865	536·2	536·7	537·3	537·8	538·3	538·9	539·4	539·9	540·5	541·0	541·5
1870	534·8	535·3	535·8	536·4	536·9	537·4	538·0	538·5	539·0	539·6	540·1
1875	533·3	533·9	534·4	534·9	535·5	536·0	536·5	537·1	537·6	538·1	538·7
1880	531·9	532·4	533·0	533·5	534·0	534·6	535·1	535·6	536·2	536·7	537·2
1885	530·5	531·0	531·6	532·1	532·6	533·2	533·7	534·2	534·7	535·3	535·8
1890	529·1	529·6	530·2	530·7	531·2	531·7	532·3	532·8	533·3	533·9	534·4
1895	527·7	528·2	528·8	529·3	529·8	530·3	530·9	531·4	531·9	532·4	533·0
1900	526·3	526·8	527·4	527·9	528·4	528·9	529·5	530·0	530·5	531·0	531·6
1905	524·9	525·4	526·0	526·5	527·0	527·6	528·1	528·6	529·1	529·7	530·2
1910	523·6	524·1	524·6	525·1	525·6	526·2	526·7	527·2	527·7	528·3	528·8
1915	522·2	522·7	523·2	523·8	524·3	524·8	525·3	525·8	526·4	526·9	527·4
1920	520·8	521·3	521·9	522·4	522·9	523·4	524·0	524·5	525·0	525·5	526·0
1925	519·5	520·0	520·5	521·0	521·6	522·1	522·6	523·1	523·6	524·2	524·7
1930	518·1	518·6	519·2	519·7	520·2	520·7	521·2	521·8	522·3	522·8	523·3
1935	516·8	517·3	517·8	518·3	518·9	519·4	519·9	520·4	520·9	521·4	522·0
1940	515·5	516·0	516·5	517·0	517·5	518·0	518·6	519·1	519·6	520·1	520·6
1945	514·1	514·6	515·2	515·7	516·2	516·7	517·2	517·7	518·2	518·8	519·3
1950	512·8	513·3	513·8	514·4	514·9	515·4	515·9	516·4	516·9	517·4	517·9
1955	511·5	512·0	512·5	513·0	513·5	514·1	514·6	515·1	515·6	516·1	516·6
1960	510·2	510·7	511·2	511·7	512·2	512·8	513·3	513·8	514·3	514·8	515·3
1965	508·9	509·4	509·9	510·4	510·9	511·4	512·0	512·5	513·0	513·5	514·0
1970	507·6	508·1	508·6	509·1	509·6	510·1	510·7	511·2	511·7	512·2	512·7
1975	506·3	506·8	507·3	507·8	508·3	508·9	509·4	509·9	510·4	510·9	511·4
1980	505·0	505·6	506·1	506·6	507·1	507·6	508·1	508·6	509·1	509·6	510·1
1985	503·8	504·3	504·8	505·3	505·8	506·3	506·8	507·3	507·8	508·3	508·8
1990	502·5	503·0	503·5	504·0	504·5	505·0	505·5	506·0	506·5	507·0	507·5
1995	501·3	501·8	502·3	502·8	503·3	503·8	504·3	504·8	505·3	505·8	506·3
2000	500·0	500·5	501·0	501·5	502·0	502·5	503·0	503·5	504·0	504·5	505·0

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

OBSERVATIONS sur l'Essai des MATIÈRES d'ARGENT par la Voie Humide; par M. *Gay-Lussac*, Essayeur au Bureau de Garantie de Paris.

IL a été présenté dernièrement au bureau de garantie de Paris, pour y être soumis à l'essai, un lingot d'argent, contenant 3 millièmes d'or, qui avait été paraphé par un essayeur du commerce à 990 millièmes et par un autre à 995. Des essais nombreux faits avec le plus grand soin, au moyen de la voie humide, par M. Besseyre, auquel j'ai confié l'exécution de ce procédé, ont donné 996 ½ millièmes pour le titre en argent du lingot. Ce titre, réuni à celui de 3 millièmes d'or, donne 999 ½ millièmes pour la somme des deux métaux fins; en sorte qu'il ne resterait que ½ millième pour le cuivre ordinairement allié à ces deux métaux. Ce résultat a fixé notre attention; car nous n'avions jamais vu l'argent fin du commerce atteindre à un si grand degré de pureté, et dépasser 997 à 998 millièmes. D'un autre côté, la coupellation, à laquelle avait été soumis le lingot, pour déterminer la quantité d'or qu'il contenait, n'a donné que 990 millièmes d'argent, au lieu de 996 ½ trouvés par la voie humide. Ces résultats sont d'accord avec ceux obtenus par les deux essayeurs du commerce, qui avaient opéré, comme j'en ai acquis la certitude, l'un par la voie humide et l'autre par la coupellation.

Surpris d'une différence aussi grande, sur laquelle il n'était plus permis d'élever aucun doute, je me suis appliqué à en rechercher la cause. Après quelques essais que je passe sous silence, j'ai reconnu qu'elle était due à la présence du mercure dans le lingot. En ajoutant, en effet, 5 milligrammes de mercure à un gramme d'argent pur, j'ai trouvé, après la dissolution des métaux dans l'acide nitrique et la précipitation par le sel marin, que le titre de l'argent avait été augmenté d'environ 4 millièmes. Éclairé par cette expérience synthétique, j'ai exposé 50 grammes du lingot, dans une petite cornue de porcelaine, à une température très élevée, et j'ai obtenu de petits globules de mercure, visibles à l'œil nu.

La cause de la différence des titres obtenus par les deux procédés étant ainsi connue, il restait à la corriger pour rendre à la voie humide toute la certitude qu'elle semblait avoir perdue par cette circonstance inattendue; car bien que l'argent contenant du mercure soit très rare dans le commerce, il suffit que le cas ait pu se présenter pour mettre l'essayeur sur ses gardes et lui inspirer une juste défiance.

J'ai d'abord pensé que, sans doute, le mercure n'avait pas été complètement oxidé, et qu'il se précipitait alors comme l'argent en chlorure insoluble; mais un essai d'argent pur, auquel j'ai ajouté 6 millièmes de mercure, dans un état de complète oxidation dans l'acide nitrique, m'a donné 1005 millièmes, au lieu de 1000 que j'aurais dû avoir; résultat qui prouve que le mercure s'était précipité avec l'argent.

J'ai supposé alors que le mercure, quoique au maximum d'oxidation, avait pu être ramené au minimum, au moment de la précipitation, par l'acide nitreux qui se produit pendant la dissolution de l'argent dans l'acide nitrique. J'ai en conséquence ajouté à la dissolution d'un gramme d'argent pur et de 6 milligrammes de mercure du caméléon, ou manganate de potasse, tant qu'il a été décoloré, et même en léger excès; mais le résultat n'a pas été plus satisfaisant; le titre de l'argent s'est trouvé augmenté d'environ 5 millièmes.

Il ne me restait plus qu'à chercher des caractères pour reconnaître la présence de très petites quantités de mercure dans l'argent. J'ai été assez heureux pour en trouver un dans la manière dont le chlorure d'argent se comporte à la lumière, selon qu'il est pur ou souillé de mercure.

Le chlorure d'argent, comme on sait, bleuit d'autant plus vite, qu'il est frappé par une lumière plus intense; il se colore même très sensiblement, et avec assez de rapidité, au contact d'une lumière diffuse, dans un appartement. S'il contient 4 à 5 millièmes de mercure, il ne bleuit plus, il reste d'un blanc mat; avec 3 millièmes de mercure, il n'y a pas encore de coloration très prononcée, toujours dans une lumière diffuse; avec 2 millièmes, elle est légère; avec 1, elle est beaucoup plus marquée; mais elle a cependant moins d'intensité que celle du chlorure pur. Avec ½ millième de mercure, la différence de coloration est peu frappante; elle n'est aperçue que dans une lumière très modérée.

Mais à ce terme où de trop petites quantités de mercure cessent d'être appréciables par une différence dans la coloration du chlorure d'argent, on peut encore les rendre extrêmement sensibles par un procédé fort simple de concentration. On dissout 1 gramme d'argent supposé contenir ½ millième de mercure, et on n'en précipite que le ¼, par exemple, en n'ajoutant que le ¼ de la dissolution de sel marin qui aurait été nécessaire pour le précipiter entièrement. En opérant ainsi, le ½ millième de mercure se trouve concentré dans une quantité de chlorure d'argent quatre fois plus petite; c'est comme si, l'argent ayant été précipité en totalité, on eût pris une quantité de mercure quatre fois plus grande, ou égale à 2 millièmes. En prenant deux grammes d'argent, n'en précipitant que le ¼, au moyen du sel marin, le précipité se comporterait, par rapport au chlorure d'argent, comme s'il y entrait pour 4 millièmes. Avec ce procédé, qui ne demande pas plus de 5 minutes d'exécution, parce qu'on peut se dispenser de peser exactement, j'ai rendu très sensible $\frac{1}{10}$ de millième de mercure dans l'argent.

Il n'est pas inutile de dire, pour ceux qui voudraient répéter ces expériences, que la manière la plus exacte d'introduire de très petites quantités de mercure dans la dissolution d'argent, consiste à peser un petit globule de mercure, à le dissoudre dans l'acide nitrique, et à étendre d'eau la dissolution, de manière qu'elle occupe autant de centimètres cubes que le globule pèse de milligrammes. Chaque centimètre cube, pris au moyen d'une pipette, contiendra 1 milligramme de mercure.

Si le lingot d'argent, présenté à l'essai, était reconnu contenir une quantité notable de mercure, 1 millième par exemple, la voie humide serait abandonnée pour ce cas, ou au moins

devrait

devrait être exécutée comparativement avec la coupellation. C'est sans doute un inconvénient, et je l'avoue sans peine; mais les quantités de mercure qui pourraient échapper, sont tellement petites, qu'elles resteraient encore bien au dessous des erreurs inhérentes à la coupellation. Je suis tellement convaincu de cette vérité, que je n'en continuerai pas moins à me servir de la voie humide, comme présentant encore toute l'exactitude désirable.

Au caractère de moindre coloration du chlorure d'argent, quand il contient du mercure, se joint encore celui d'une plus grande difficulté d'eclaircissement de la liqueur par l'agitation; mais j'insiste peu sur son importance, parce qu'il devient trop difficile de l'apercevoir, lorsque l'argent ne contient que 1 à 2 millièmes de mercure.

J'ai cherché à reconnaître la présence du mercure dans l'argent, en en chauffant un gramme au feu de moufle, dans un petit creuset, avec du noir de fumée, pour éviter la vaporisation de l'argent; mais j'ai été bien trompé dans mon attente; après trois quarts d'heure de feu, le poids de l'argent s'est trouvé accru d'une quantité très sensible. Dans une expérience, l'excès de poids s'est élevé à plus de 30 milligrammes.

En terminant cette note, je dois dire qu'aucun métal, après le mercure, n'a la propriété de troubler le titre de l'argent. Lorsque j'ai fait connaître le procédé par la voie humide, j'avais essayé un grand nombre de métaux, tels que le fer, le zinc, le cuivre, le plomb, le nickel, le cobalt, le bismuth, etc.; mais préoccupé sans doute de l'idée que l'argent ne contenait point du mercure après avoir été fondu, et que ce dernier métal formait un chloride très soluble, il m'était échappé de le soumettre à l'expérience. Je m'en félicite aujourd'hui; car la difficulté que je viens de signaler, quoique vaincue, m'aurait peut-être ôté ce courage opiniâtre, si nécessaire pour approprier la moindre découverte scientifique aux besoins des arts.

(Extrait des Annales de Chimie et de Physique, Février 1835.)

— (I.) —

ORDONNANCES ROYALES du 6 Juin 1830; TARIF; INSTRUCTION et RAPPORTS sur le Nouveau Mode d'Essai des Espèces et Matières d'Argent.

RAPPORT AU ROI.

Sire,

DEPUIS quelque temps des réclamations s'élevaient au sujet du titre qu'assignait aux matières et espèces le mode d'essai qui est généralement suivi en Europe; des expériences faites au laboratoire des monnaies, ainsi que par des hommes de l'art, concouraient à faire penser que ce mode en effet n'accusait pas, dans tous les cas, avec une exactitude complète, le titre réel de ces valeurs, et qu'à cet égard le vœu de la législation sur la matière ne se trouvait pas rempli.

Une question d'un si haut intérêt méritait d'être approfondie. Elle a paru à mon prédécesseur ne pouvoir l'être utilement, sous tous les rapports qu'elle embrasse, que par le concours des lumières de la science, de l'administration et du commerce. M. le Comte de Chabrol a cru devoir dès-lors en confier l'examen à une commission spéciale composée de M. le Comte Chaptal, pair de France, président; M. le Baron de Fréville, conseiller-d'état; MM. Thénard, Gay-Lussac et Dulong, membres de l'académie des sciences; M. Masson, maître des requêtes; M. Say, professeur d'économie industrielle au conservatoire royal des arts et métiers; et M. Benoist-Fould, banquier.

Cette commission était chargée: 1°. d'examiner le mode en usage au laboratoire des monnaies à Paris, pour l'essai des matières et espèces d'argent:

2°. De constater et indiquer les changemens dont ce mode d'essai pourrait être susceptible, en faisant connaître en même temps les effets qu'un nouveau mode d'essai pourrait avoir relativement aux intérêts commerciaux de la France:

3°. De donner son avis sur l'époque à laquelle un semblable changement, s'il était reconnu nécessaire, devrait avoir lieu, ainsi que sur la question de savoir si le nouveau mode d'essai devrait être généralisé, et rendu obligatoire pour les bureaux de garantie et les essayeurs du commerce:

4°. La commission était en même temps appelée à présenter ses vues sur les moyens d'exécution de cette mesure, et à faire connaître si sa réalisation réclamerait une disposition nouvelle dans la legislation qui régit la matière, ou seulement un réglement d'administration publique.

Chacun de ces points a été mûrement examiné et discuté par la commission, dont le travail, digne d'être signalé à l'attention de Votre Majesté, est un traité complet sur la matière.

Il est établi, 1°. que le mode d'essai par la coupellation des espèces et matières d'argent, accuse généralement le titre de ces matières un peu trop bas; que la différence du titre ainsi constaté, au titre réel, n'est point proportionnelle à la quantité du métal précieux contenu dans l'alliage; que pour l'argent pur ou à 1,000 millièmes, elle est nulle, ou au plus de 1 millième; qu'elle va ensuite en croissant jusqu'aux alliages à 600 ou 500 millièmes, pour lesquels elle est d'environ 5 millièmes, et que de là elle diminue jusqu'à l'alliage à 100 millièmes, où elle redevient presque nulle.

2°. Que les différences des titres accusés, aux titres réel, ne sont pas à beaucoup près les memes, ni pour les essayeurs Français, ni pour les essayeurs étrangers, et qu'elles varient avec les temps, les lieux et les personnes.

3°. Qu'il est possible cependant d'accuser vrai le titre d'une matière d'argent; soit par le procédé ancien de la coupellation, soit par le procédé nouveau de *la voie humide*.

4°. Que la législation existante ayant toujours voulu que les titres de matières d'or et

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

d'argent fussent accusés rigoureusement, il s'ensuit qu'aucune disposition législative nouvelle n'est nécessaire à cet égard, et qu'il y a lieu seulement de prescrire à tous les essayeurs du commerce et de la garantie indistinctement, de remplir l'obligation, qui leur est imposée par la loi, d'accuser exactement le titre d'un alliage, et prenant sous leur responsabilité tel moyen qu'ils jugeront convenable pour atteindre ce but.

5°. Que le changement proposé, et dont le résultat doit être d'accuser à l'avenir le titre réel des matières d'argent, ne saurait avoir aucun inconvénient pour les intérêts commerciaux de la France.

6°. Qu'il sera indispensable que le tarif du 17 prairial an 11 soit revu et rectifie, et qu'une instruction sur l'art des essais, préparée par la commission des monnaies, soit publiée par elle, en même temps que la disposition nouvelle sur le mode d'essai sera mise à exécution.

La commission des monnaies, qui avait elle-même reconnu et signalé l'imperfection du mode d'essai des matières et espèces d'argent, par la coupellation, et provoqué l'examen de cette importante question, a été appelée à délibérer sur les conclusions du rapport de la commission spéciale qui a procédé à cet examen.

Elle a pleinement adhéré aux propositions contenues dans ce rapport: le procédé nouveau de la voie humide, pour l'essai des matières et espèces d'argent, étant reconnu offrir l'avantage d'accuser, avec une exactitude presque mathématique, et par un résultat direct, le titre des matières, a paru à la commission des monnaies, comme à la commission spéciale, devoir être préféré au procédé ancien de la coupellation, bien qu'à l'aide d'une bonne table de compensation, ce dernier puisse également accuser le titre des matières avec exactitude. Mais, pour obtenir à-la-fois du procédé de la voie humide l'exactitude et la célérité que réclame l'essai des espèces d'argent fabriquées dans nos divers établissemens monétaires, et qui doivent être soumises au jugement de la commission des monnaies, il est nécessaire que l'application de ce procédé soit faite par des moyens mécaniques, attendu qu'avec les moyens actuellement en usage elle entraînerait des lenteurs préjudiciables au trésor, toutes les fois qu'il y aurait un nombre un peu considérable d'essais à opérer.

La commission des monnaies a donc représenté que d'ici à l'époque où le nouveau procédé de la voie humide pourra être employé avec tout le succès desirable, il sera encore nécessaire de procéder à l'essai des espèces d'argent fabriquées, par la voie de la coupellation, ce qui sera, au reste, sans inconvénient, puisque le résultat qu'on obtient de ce mode d'essai peut être exactement rectifié aujourd'hui par une table de compensation.

Il est à remarquer, d'un autre côté, que l'usage que l'on continuera de faire ainsi, au laboratoire des monnaies à Paris, du procédé de la coupellation, n'aura lieu que pour le jugement du titre des espèces nouvellement fabriquées et trouvées dans les limites. La vérification du titre des pièces trouvées hors des limites légales, et les contre-essais des lingots et matières d'or et d'argent du commerce, prescrits par la loi du 19 brumaire an 6, seront toujours opérés par le procédé de la voie humide.

La commission des monnaies a reconnu, comme la commission spéciale, qu'aucun mode d'essai ne pouvait être prescrit aux essayeurs des bureaux de garantie et du commerce, lesquels sont et doivent demeurer libres dans le choix de ce mode, puisqu'ils ont la responsabilité de l'exactitude du titre qu'ils assignent aux matières et ouvrages d'or et d'argent qui leur sont présentés par le commerce. La loi a d'ailleurs prévu et déterminé les cas où des contre-essais devraient avoir lieu, et comme je viens de le dire, ce sera, dans ces circonstances, toujours par le moyen de la voie humide, qu'il y sera procédé au laboratoire des monnaies à Paris.

Consulté sur le but de cette mesure, et sur ses effets en ce qui touche nos intérêts commerciaux, le bureau de commerce et des colonies a émis un avis qui ajoute à la sécurité manifestée à cet égard par la commission spéciale et la commission des monnaies.

D'après ce qui vient d'être exposé, il est établi en fait que le mode d'essai par la coupellation, suivi au laboratoire des monnaies à Paris, n'est pas rigoureusement exact; qu'il affaiblit plus ou moins le titre des matières et espèces d'argent; que par conséquent il ne remplit pas le vœu de la loi. Sa rectification est donc devenue indispensable, et le Gouvernement, éclairé comme il l'est aujourd'hui sur ce point, ne peut se dispenser de prendre les mesures qui sont en son pouvoir pour assurer, à l'avenir, l'entière exactitude du titre des matières et espèces d'argent.

Il y a d'autant moins lieu d'hésiter dans cette détermination, qu'aucune des conséquences de la rectification qu'il s'agit d'opérer, n'est jugée susceptible de causer le moindre dommage à l'intérêt public, tandis que, par sa coïncidence avec la refonte de nos anciennes monnaies d'argent, elle offre à l'État un avantage réel. En effet, le tarif actuel, dont la base est defectueuse, n'assigne aux écus de 6 et 3 livres et aux pièces de 24, 12 et 6 sous que 907 millièmes d'argent fin, bien qu'en réalité ils en contiennent 911; d'où il résulte une différence de 4 millièmes, qui, appliquée à 600 millions d'espèces qu'on suppose que la refonte doit embrasser, se réalisera en une plus-value d'environ 2,640,000 francs au profit du trésor. En ajoutant ce bénéfice à celui de 3,600,000 francs déjà obtenu de l'adjudication de l'affinage des mêmes espèces, l'État aura acquis une ressource totale de 6,240,000 francs, et le moyen d'atténuer, dans la proportion des deux tiers environ, à la décharge des contribuables, la dépense que doivent occasionner les frais de refonte de nos anciennes monnaies.

D'un autre côté, Votre Majesté ne remarquera pas sans intérêt que le bénéfice de la plus-value, qu'assignera à ces monnaies le nouveau mode d'essai, s'étendra aux détenteurs d'espèces altérées qui, n'étant plus admises dans les caisses publiques pour leur valeur nominale, seraient livrées comme matière au change des monnaies. Ainsi, sous ce rapport encore, la mesure aura une opportunité toute particulière.

Mais

(B.)
FRENCH MINT.

Mais en définitive, son but essentiel est, en ramenant le mode d'essai à l'exactitude rigoureuse voulue par la loi, d'assurer et de garantir la parfaite intégrité du titre de nos monnaies, tel qu'il a été fixé par la loi du 7 germinal an 11.

J'ai l'honneur de soumettre à l'approbation de Votre Majesté deux projets d'ordonnance destinés à réaliser les mesures dont il s'agit.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

Le Ministre des Finances,
Paris, ce 6 Juin 1830. *Montbel.*

ORDONNANCE DU ROI.

CHARLES, par la Grâce de Dieu Roi de France et de Navarre,

D'après le compte qui nous a été rendu des réclamations auxquelles donnait lieu le mode d'essai employé jusqu'ici pour constater le titre des matières et espèces d'or et d'argent:

Vu le rapport de la commission spéciale, chargée, par notre ministre secrétaire d'état des finances, d'examiner jusqu'à quel point lesdites réclamations pouvaient être fondées:

Vu la loi du 7 germinal an 11, portant que 5 grammes d'argent, au titre de 9/10 de fin, constituent l'unité monétaire, désignée sous le nom de franc:

Vu la délibération et l'avis de la commission des monnaies, en date du 8 Avril 1830:

Vu l'avis du bureau de commerce et des colonies:

Considérant qu'il importe aux intérêts du commerce et du public que le titre des matières d'or et d'argent soit constaté d'une manière exacte, conformément au vœu de la loi:

Considérant qu'il est reconnu que le mode d'essai par la coupellation ne peut donner un résultat exact, dans tous les cas, pour les matières et espèces d'argent, qu'au moyen de calculs de compensation, et que le mode par la voie humide ne laisse rien à desirer, quant à l'exactitude des titres qu'ils constate:

Considérant qu'il doit résulter, des modifications réclamées dans le mode d'essai actuel, une surévaluation dans le prix des matières d'argent anciennement titrées, et qui seraient versées aux changes des hôtels des monnaies:

Considérant que les essayeurs du commerce et de la garantie sont responsables, sous les peines portées par la loi, de la déclaration du titre qu'ils accusent; et qu'en raison même de cette responsabilité, ils doivent demeurer libres dans le choix du mode d'essai qu'ils emploient:

Sur le rapport de notre ministre secrétaire d'état des finances;

Nous avons ordonné et ordonnons ce qui suit:

Art. 1.—Quel que soit le mode d'essai suivi par un essayeur, pour titrer les matières d'or et d'argent, il sera tenu, sous sa responsabilité, d'en accuser le véritable titre; il lui sera transmis, par la commission des monnaies, une instruction, approuvée par notre ministre secrétaire d'état des finances, sur la manière d'opérer du laboratoire des essais.

Art. 2.—Les contre-essais des lingots et matières d'or et d'argent du commerce, faits, aux termes de la loi du 19 brumaire an 6, à l'hôtel des monnaies de Paris, auront toujours lieu à l'avenir par le procédé de la voie humide.

Art. 3.—Les essais et contre-essais, relatifs au jugement du titre des espèces d'argent fabriquées dans nos hôtels des monnaies, auront également lieu par la voie humide.

Lorsque, par des motifs de nécessité, dont la commission des monnaies sera juge, ce mode ne pourra être employé, il y sera supplée par l'ancien mode de la coupellation, en rectifiant les résultats au moyen de la table de compensation arrêtée par la commission des monnaies. Toutefois la vérification du titre des pièces trouvées hors des limites légales, devra toujours se faire par le procédé de la voie humide.

Art. 4.—Le prix des matières et espèces, comprises au tarif du 17 prairial an 11, et des matières et espèces légalement titrées depuis sa publication, sera augmenté de la valeur acquise à chaque titre, d'après la table de compensation ci-dessus mentionnée.

Il sera rédigé à cet effet un nouveau tarif par notre commission des monnaies, lequel sera publié, après avoir été approuvé par notre ministre secrétaire d'état des finances, et servira de base au prix que les directeurs de la fabrication des monnaies devront payer aux porteurs de matières.

Art. 5.—Notre ministre secrétaire d'état des finances est chargé de l'exécution de la présente ordonnance, qui sera insérée au bulletin des lois.

Donné en notre château de Saint-Cloud, le 6 Juin de l'an de Grâce 1830, et de notre règne le 6.

(signé) CHARLES.

Par le Roi: Le Ministre Secrétaire d'Etat des Finances,
(signé) *Montbel.*

Pour ampliation: Le Secrétaire Général des Finances,
(signé) *De Boubers.*

ORDONNANCE DU ROI.

CHARLES, par la Grâce de Dieu Roi de France et de Navarre,

Vu notre ordonnance du 6 Juin présent mois, déterminant les différens modes d'essai qui seront suivis à l'avenir au laboratoire de la commission des monnaies, pour constater le

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

le titre des espèces qui seront fabriquées dans nos hôtels des monnaies, et pour vérifier, s'il y a lieu, le titre des espèces et matières d'argent qui seront versées aux changes de ces hôtels :

Vu la délibération de la commission des monnaies, qui indique les accroissemens de titre que lesdites espèces et matières d'argent doivent éprouver, par suite des modes d'essai qui seront suivis, pour en accuser le titre réel :

Sur le rapport de notre ministre secrétaire d'état des finances ;

Nous avons ordonné et ordonnons ce qui suit :

Art. 1.—Les directeurs de la fabrication dans nos hôtels des monnaies compteront sur le pied de 911 millièmes du fin contenu dans les espèces duodécimales d'argent de six livres, trois livres, vingt-quatre sous, douze sous, et six sous, qui leur seront versées, en exécution de la loi du 14 Juin 1829, tant par le trésor que par les particuliers.

Ils recevront, au même titre de 911 millièmes, les espèces duodécimales d'argent rognées, altérées, ou sans empreinte, qui seront versées au change par les particuliers, pour le poids qu'elles auront conservé, et elles seront payées comme lingots par les directeurs, à raison de 199 francs 41 centimes le kilogramme.

Art. 2.—Notre ministre secrétaire d'état des finances est chargé de l'exécution de la présente ordonnance, qui sera insérée au bulletin des lois, et affichée dans les bureaux de change des hôtels des monnaies.

Donné en notre château de Saint-Cloud, le 6 Juin 1830, et de notre règne le 6.

(signé) CHARLES.

Par le Roi : Le Ministre Secrétaire d'Etat des Finances,
(signé) *Montbel.*

Pour ampliation : Le Secrétaire Général des Finances,
(signé) *De Boubers.*

ARGENT.

TARIF du Prix auquel doivent être payés au Change, dans les Hôtels des Monnaies, les Espèces et Ouvrages d'Argent ci-après désignés, en conformité de la loi du 28 Mars 1803 (7 germinal an 11), qui ordonne que les pièces d'Argent seront fabriquées au titre de 900 millièmes ; que le franc, unité monétaire, sera du poids de cinque grammes, et qui fixe la retenue, pour frais de fabrication et de déchet, à trois francs par kilogramme d'argent, au titre de 900 millièmes.

DÉNOMINATIONS DES ESPÈCES ET OUVRAGES D'ARGENT.	TITRES.	VALEUR par KILOGRAMME.	
		f.	*c.*
Gros écus de Palatinat	984	215	39
Gros écus de Nassau-Weilbourg	978	214	07
Pièces de 5 francs et 10 francs du royaume d'Etrurie (effigie de la reine et de son fils)	957	209	48
Jetons de France et jetons de Pondichéry	953	208	60
Argenterie de France (1er titre) marquée depuis la loi du 19 brumaire an 6	90	207	94
Argenterie au poinçon de Paris, tant plate non soudée que plate soudée, marquée antérieurement à la loi du 19 brumaire an 6.			
Roupies du Mogol			
Roupies de Madras	947	207	29
Roupies d'Arcate des Indes	944	206	63
Vaisselle montée de Paris, marquée avant la loi du 19 brumaire an 6	941	205	97
Philippes de Milan			
Vaisselle plate des départemens, marquée antérieurement à la loi du 19 brumaire an 6	937	205	10
Roupies de Perse	934	204	44
Vaisselle plate soudée et vaisselle montée des départemens, marquées antérieurement à la loi du 19 brumaire an 6	930	203	57
Couronnes et schellings d'Angleterre et vaisselle Anglaise	923	202	03
Ducatons de Liége et de Parme	921	201	60
Ecus de France avant 1726, de 8, 9, 10 et 10 $\frac{8}{9}$ au marc	917	200	72
Ecus de banque de Gênes	914	200	06
Ecus de 6 livres, 3 livres, et pièces de 24, 12 et 6 sous, depuis 1726, rognés ou effacés. Florins de Hollande	911	199	41
Piastres aux deux globes, Mexicos et Sevillanes	910	199	19
Ecus de Rome et pièces de 8 de Florence			
Ecus de Piémont et de Schaffouse. Testons de Rome	907	198	53
Ecus neufs de Piémont depuis 1816	904	197	88
Ducats de Naples ; monnaie blanche de Naples. Ecus de Suède	903	197	66
Dollars d'Amérique depuis 1800. Piastres à l'effigie de la fabrication commencée en 1772. Cruzades de Portugal	900*	197	–

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

DÉNOMINATIONS DES ESPÈCES ET OUVRAGES D'ARGENT.	TITRES.	VALEUR par KILOGRAMME.
Pièces de 12 carlins d'Italie	888	194 37
Ecus de Hanovre, de Hambourg, de Danemarck, et rixdales de constitution d'Autriche	879	192 40
Florins d'Autriche. Couronnes de Brabant (dites croisons)	876	191 75
Ecus de Brabant, et roubles de Russie depuis 1793	874	191 31
Rixdales de Hollande et écus de Bâle	869	190 21
Ducatons et écus de Flandres et des Pays-Bas Autrichiens. Georgines de Gênes. Ecus de Lucerne et de Saint-Gall	862	188 68
Patagons de Genève	844	184 74
Ecus de convention d'Allemagne et pièces de 12 sous de Luxembourg	837	183 24
Florins d'Underwal	836	182 99
Ecus de Malte. 5^{e}, 10^{e} et 20^{e} de piastre d'Espagne avant 1772	834	182 55
Ecus de Brunswick et de Ratisbonne et Madonines de Gênes	830	181 68
Anciennes pièces de France dites de 20 sous, 10 sous et 4 sous. Rixdales et couronnes de Danemarck et pièces de 12 tarins de Sicile	827	181 02
Ecus ou rixdales d'Anspach et de Bavière	823	180 15
Ducats de Venise	817	178 83
Ecus de Zurich	813	177 96
5^{e}, 10^{e} et 20^{e} de piastre d'Espagne depuis 1772	812	177 74
Thalaris	811	177 52
Argenterie de France (2.^{e} titre) marquée depuis la loi du 19 brumaire an 6	803	175 77
Roubles de Russie	792	173 36
Argenterie marquée d'un aigle, et celle marquée de la lettre A surmontée d'une croix	789	172 70
Argenterie marquée d'une scie	762	166 79
Florins de Mayence	752	164 60
Rixdales ou écus de Prusse depuis 1775	746	163 29
Florins de Bade-Dourlach	745	163 07
Ecus de Lubeck. Kopfstuck de Hesse-Darmstadt et de Cologne. Petermen de Trèves	737	161 32
Ecus de Bareith	734	160 66
Florins de Mecklembourg	613	134 18
24 kreutzers d'Allemagne depuis 1753	586	128 27
Doubles et simples escalins de Brabant	578	126 52
Doubles et simples escalins et plaquettes de Liège	573	125 42
4 gros ou $\frac{1}{6}$ d'écu (petit-cheval) de Brunswick Wolfenbutel	561	122 80
4 gros ou $\frac{1}{6}$ d'écu de Saxe depuis 1763	544	119 08
Piastres de Tunis et de Constantinople et dubletyes de Hollande	533	116 67
Plaquettes ou $\frac{1}{2}$ escalin de Brabant	505	110 54
Pièces de 12 kreutzers d'Allemagne depuis 1753	498	109 01
Pièces de 2 gros (ou $\frac{1}{12}$ d'écu) de Saxe depuis 1763	439	96 09
Pièces de 2 sous 6 deniers de Brabant	414	90 62

* *Observation.*—Les matières et espèces au-dessous du titre de 900 millièmes sont passibles du droit d'affinage fixé par l'ordonnance royale du 15 Octobre 1828, lorsqu'elles sont versées isolément au change des monnaies. Le droit d'affinage n'est pas dû sur les matières dont le titre commun ressort à 900 millièmes.

Le présent tarif, vérifié et certifié exact.

Le Vérificateur et les Essayeurs des Monnaies,
(signé) *Bréant, Chaudet, Chevillot.*

Vu, le Directeur des Essais, (signé) *D'Arcet.*

Arrêté par la Commission des Monnaies, le 29 Avril 1830,
Les Commissaires Généraux, (signé) *Brunet, Lambert.*

Approuvé, Paris, le 10 Juin 1830,

Le Ministre Secrétaire d'Etat des Finances, (signé) *Montbel.*

Pour ampliation, le Secrétaire Général des Finances, (signé) *De Boubers.*

Le Pair de France, Président, (signé) C^{te} *De Sussy.*

(B.)
French Mint.
Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

Instruction relative aux Procédés suivis au Laboratoire des Essais de la Commission des Monnaies, pour les Essais, Contre-Essais et Vérifications des Espèces et des Matières d'Or et d'Argent.

Les expériences publiées par Tillet, de 1761 à 1763, avaient appris que le procédé de la coupellation, généralement employé pour déterminer le titre des matières d'argent, l'accusait de quelques millièmes trop bas. Tillet, en dénonçant ce fait, manifestait le desir, sans toutefois en avoir l'espérance, que la gravité en fût appréciée par les diverses cours de l'Europe, et qu'on s'entendît sur les moyens de rendre le mode d'essai plus uniforme et plus sûr. Mais les expériences de Tillet furent bientôt oubliées; ou plutôt, on craignit de toucher à un procédé d'après lequel se réglaient les transactions en matières d'argent: l'on sentit d'ailleurs d'autant moins le besoin de le corriger, qu'aucune plainte ne s'élevait, et que la perte dans les matières d'argent, causée par une trop faible évaluation de leur titre, circulait inaperçue par le vendeur, comme par l'acheteur. C'est ainsi que ce procédé s'est transmis d'une génération à l'autre, et a été scrupuleusement conservé par les administrations qui en ont été successivement dépositaires: cependant les progrès récens de l'art de l'affineur en ont fait ressortir les imperfections; des réclamations se sont élevées, et de là est née l'impérieuse nécessité d'accuser désormais le véritable titre des matières d'argent.

Tel est le but de l'ordonnance royale du 6 Juin 1830. En imposant aux essayeurs l'obligation d'accuser désormais le véritable titre des matières d'or et d'argent, elle a voulu, par la publication d'une instruction, leur faciliter les moyens de corriger leurs manipulations: ce résultat ne peut être mieux atteint qu'en décrivant les procédés qui sont maintenant suivis au laboratoire des essais de la commission des monnaies. Cette instruction fera ainsi connaître les changemens survenus, dans les travaux de ce laboratoire, par l'exécution de l'ordonnance.

Table de Compensation pour Corriger les Titres des Matières d'Argent obtenus par la Coupellation.

Les pertes occasionnées par la coupellation, telle qu'on la pratique dans le laboratoire des essais de la commission des monnaies, ont d'abord été constatées par un grand nombre d'expériences faites sur des alliages d'argent, fondus avec le plus grand soin, et sur de simples mélanges d'argent et de cuivre à différens titres. Ce travail a servi à composer le tableau n°. 1 qui se trouve à la suite de cette instruction, et qui a été adopté provisoirement comme table de compensation pour convertir à l'avenir, en titres réels, les titres obtenus aux fourneaux à coupelle du laboratoire des essais.

Chaque essayeur n'employant pas les mêmes doses de plomb, et opérant à des températures différentes, et dans des circonstances atmosphériques très-variables, sera obligé de faire un travail semblable, et de composer, pour les circonstances où il se trouvera, la table de compensation qu'il aura à employer: on ne présente donc ici ce qui a été fait à ce sujet, que comme modèle, et non pas comme pouvant être utilement employé ailleurs qu'au laboratoire des monnaies.

Les essais et contre-essais relatifs au jugement du titre des espèces d'argent fabriquées dans les hôtels des monnaies, se font, autant que les circonstances le permettent, par le procédé de la voie humide. Lorsque ces essais ou contre-essais ont lieu par la coupellation, on en rectifie les résultats au moyen de la table de compensation, arrêtée par la commission des monnaies, c'est-à-dire, en augmentant tous les titres de 4 millièmes, nombre de compensation correspondant au titre moyen de 900 millièmes.

Quant à la vérification du titre des pièces trouvées hors des limites, elle a toujours lieu, conformément à l'article 3 de l'ordonnance, par le procédé de la voie humide, et il en est de même pour la vérification du titre des lingots et matières d'argent qui, aux termes de la loi du 19 brumaire an 6, doit être faite à l'hotel des monnaies de Paris.

Relativement au tarif du 17 prairial an 11, on a seulement à faire observer ici que les titres des matières ou espèces d'argent qui y étaient portés, ont été augmentés chacun du nombre correspondant dans la table de compensation qui se trouve à la fin de la présente instruction; c'est ainsi qu'a été rectifié le tarif qui sert actuellement de base, dans les changes des monnaies, aux transactions qui s'y font entre les particuliers et les directeurs de la fabrication monétaire.

Des Essais d'Argent par le moyen de la Coupellation.

On n'a rien changé au procédé de coupellation suivi au laboratoire des essais, et au moyen duquel on a composé la table de compensation qui a été citée plus haut. On veillera avec le plus grand soin à n'apporter aucun changement dans ce mode d'essai, afin de pouvoir toujours faire usage de la même table de compensation; on s'assurera d'ailleurs souvent de la marche régulière des opérations, en essayant, soit des lingots à des titres bien connus, soit de simples mélanges d'argent et de cuivre purs en proportions exactement déterminées, ce qui servira de contrôle aux essais ordinaires des délivrances, qui seuls pourront continuer à être faits par le moyen de la coupelle.

Des Essais d'Or.

L'expérience a prouvé que, malgré l'exactitude du procédé employé pour essayer l'or et ses alliages, les essayeurs ne parviennent cependant pas toujours à en déterminer les véritables titres, et que c'est en général en plus qu'existent les erreurs commises; cet inconvénient

convénient se remarque surtout depuis que l'art de l'affinage, porté à un haut point de perfection, a versé dans le commerce de grandes quantités d'or pur: voici quels sont les changemens qui ont été apportés au laboratoire des essais, dans le procédé dont il s'agit, pour en bien régulariser la marche, et pour en obtenir constamment des résultats exacts.

On continue à ne faire les essais d'or qu'en opérant sur le demigramme, et on amène toujours l'alliage, soumis à l'opération du départ, à contenir trois parties d'argent contre une d'or.

On passe l'essai d'or à la coupelle, en n'y employant que la dose de plomb convenable; et on opère à la moindre température possible, afin d'éviter l'introduction d'une partie de l'or dans la coupelle.

Si l'on essaie de l'or à haut titre, le bouton de retour doit être brossé en dessous, sans le serrer trop fortement dans la pince; on le fait ensuite rougir, dans une coupelle neuve, avant de l'aplatir, parce que, sans cette précaution, il pourrait être aigre: on l'aplatit, on le recuit de nouveau, on le lamine, on fait recuire la lame, on la roule en spirale, que l'on fait recuire, et que l'on soumet d'abord à l'action de l'acide nitrique à 22 degrés de Beaumé, jusqu'après le dégagement du gaz nitreux, ce qui a lieu en cinq minutes environ; on passe ensuite, et successivement deux fois, de l'acide nitrique à 32 degrés sur le cornet, en maintenant l'ébullition pendant dix minutes chaque fois, et l'on termine enfin l'essai comme on le fait ordinairement, c'est-à-dire, en lavant le cornet avec de l'eau distillée, et en le faisant recuire sous la moufle. En opérant ainsi, et en se réglant sur quelques essais faits au moyen de mélanges ou d'alliages d'or et d'argent à proportions bien connues, pour donner aux lames l'épaisseur convenable, et aux révolutions du cornet, l'écartement nécessaire, on parviendra toujours facilement à déterminer le véritable titre de l'or et des alliages de ce métal.

De l'Essai d'Or tenant Argent.

La nécessité d'opérer rapidement dans les laboratoires, où il se fait un très-grand nombre d'essais par jour, a fait penser à quelques essayeurs que l'on pouvait sans inconvénient, dans l'essai des alliages d'or et d'argent, se servir du bouton passé à la coupelle, dans le but de connaître le titre or et argent du lingot, pour déterminer ensuite, par le moyen du départ, la quantité d'or pur qui s'y trouve; mais il y a déjà quelques années que l'on a reconnu que cette méthode, qui oblige souvent à coupeller deux fois la même prise d'essai, était vicieuse, et qu'il en résultait alors une perte d'or assez considérable. C'est pour éviter ce grave inconvénient que l'on opère comme il suit au laboratoire des monnaies, quand on veut y titrer des alliages d'or et d'argent.

On passe à la coupelle un demi-gramme de l'alliage, en opérant avec la quantité de plomb, et à la chaleur convenables*. On détermine ainsi la proportion d'or et d'argent réunis qui se trouvent dans le lingot. On pèse ensuite une nouvelle prise d'essai, du poids d'un demi-gramme; on en fait l'inquartation; on passe le tout à la coupelle, et on traite le bouton comme il a été dit ci-dessus, en parlant des essais d'or.

Des Essais de Doré ou d'Argent ne contenant que peu d'Or.

L'essai de doré pouvant se faire sans avoir recours à l'inquartation, ne présente pas l'inconvénient cité plus haut en parlant de l'essai d'or tenant argent; ici, on n'a besoin que de passer la prise d'essai une seule fois à la coupelle. Lorsque le doré est peu chargé en or, l'essai doit être fait sur un gramme de l'alliage; il suffit alors, pour arriver à des résultats exacts, ou d'opérer la coupellation de manière à n'avoir ni augmentation ni perte sur la quantité d'argent, ou de compenser exactement les différences que l'on peut trouver. Le départ du bouton doit ensuite se faire, en prenant toutes les précautions qui ont été indiquées au chapitre où il est parlé des essais d'or.

De l'Essai d'Argent par la Voie humide.

La commission spéciale† qui, par le rapport qu'elle a fait sur le perfectionnement de l'art de l'essayeur, a déterminé le Gouvernement à introduire, dans les procédés de cet art, les changemens relatés dans les dispositions de l'ordonnance en date du 6 Juin 1830, a proposé, et fait mettre à exécution un nouveau mode d'essai bien convenable, pour déterminer le titre de l'argent. Ce procédé, dû à M. Gay-Lussac, rapporteur de la commission, consiste à dissoudre dans l'acide nitrique deux grammes de l'argent que l'on veut essayer, et à déterminer exactement la quantité d'argent pur qui se trouve dans cette liqueur, en précipitant cet argent par une dissolution de sel marin, titrée ou composée de manière que cent grammes de cette dissolution puissent justement précipiter deux grammes d'argent fin. Ce procédé, qui a été appliqué avec le plus grand succès aux travaux du laboratoire des monnaies, étant nouveau, donnant à l'art de l'essayeur la précision qui lui manquait, et

* Il faut opérer de manière à n'avoir ni perte ni surcharge dans le bouton de retour: on arrivera à ce résultat, en faisant les opérations synthétiques nécessaires. On pourrait encore composer une table pour compenser les différences en plus ou en moins résultant de la coupellation.

† Cette commission était composée de MM. Comte Chaptal, pair de France, président; Baron Thénard, Dulong, Gay-Lussac, membres de l'académie royale des sciences; Baron de Fréville, conseiller d'état; Masson, maître des requêtes; J. B. Say, professeur d'économie industrielle, et Benoît-Fould, banquier.

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

et devant être, sinon toujours adopté de préférence à la coupellation, au moins employé dans les cas difficiles et comme moyen de vérification, doit être décrit, avec tous les détails nécessaires, dans cette instruction, pour en faciliter la pratique aux essayeurs.

Description du Procédé.

On a dit que, dans le procédé de l'essai d'argent par la voie humide, le titre de l'argent se déterminait au moyen d'une dissolution de sel marin : l'on va indiquer les moyens de composer cette dissolution.

On prendra du sel marin pur et parfaitement sec, ou à défaut, du sel marin blanc du commerce*, et on en fera une dissolution dans le rapport de 100 grammes de sel à 9143^{g} 85 d'eau distillée ; la dissolution étant complète, on la vérifiera, et on en réglera le titre, comme il suit.

On fera dissoudre 2 grammes d'argent pur dans 10 grammes d'acide nitrique à 22 degrés, en se servant du flacon A, dont on voit le dessin à la figure I^{re}. de la planche jointe à cette instruction ; on y versera peu à peu, et en agitant bien, 100 grammes de la dissolution de sel marin† ; on bouchera le flacon, on l'agitera pendant quelques minutes, on laissera éclaircir la liqueur, ou bien on en filtrera un peu sur un petit filtre lavé à l'eau distillée ; on en versera dans deux verres propres ; on ajoutera dans l'un quelques gouttes de nitrate d'argent, et dans l'autre un peu de dissolution de sel. S'il se forme un précipité dans le premier verre, on saura que la dissolution de sel titrée est trop forte ; elle sera trop faible, s'il se forme un précipité dans le second verre, et elle sera au contraire bien constituée, si elle n'est louchie ni par le nitrate d'argent, ni par la dissolution de sel marin. Dans les deux cas, où la dissolution de sel marin ne serait pas composée exactement comme on le desire, il faudrait y ajouter peu à peu, soit du sel marin pur, soit de l'eau distillée, jusqu'à ce qu'on l'ait amenée, par tâtonnement, au point de précipiter juste 2 grammes d'argent, en employant 100 grammes de cette dissolution : elle sera alors convenable pour faire les essais d'argent par la voie humide‡. On n'aura plus qu'à la renfermer dans une bouteille fermée avec un bouchon de verre à l'émeril, graissé avec du suif, et qu'à la garder sous clé quand on ne s'en servira pas.

Voici maintenant la série des manipulations pour essayer un alliage d'argent par la voie humide.

On pèse 2 grammes de cet alliage, on les introduit dans le flacon A, figure I^{re}. du tableau N° 2, on jauge 10 grammes d'acide nitrique à 22 dégrés dans le tube en verre B, figure II, ou, au moyen de la pipette C, figure III, on verse cet acide dans le flacon A, et on favorise la dissolution de l'argent en plaçant le flacon sur des cendres chaudes, sur un bain de sable ou au bain-marie. La dissolution de l'argent étant complète, on y ajoute 50 grammes, ou un demi-décilitre, d'eau distillée ; on prend la burette D, qui est représentée à la figure IV, et qui est graduée en 100 parties contenant chaque 1 gramme de dissolution de sel titrée ; on remplit la burette jusqu'au zéro de sa division, et on en prend le poids bien exactement avec des poids décimaux et en la suspendant à l'un des plateaux d'une balance très-sensible ; on note le poids trouvé, et on verse peu à peu, en opérant à l'ombre et en agitant bien chaque fois, de la dissolution de sel titrée dans le flacon. Il faut opérer lentement, et goutte à goutte vers la fin de l'opération. On agite alors le flacon plus fortement et pendant une minute ; on essaie la liqueur, et on continue l'opération en tâtonnant ainsi.

Pour que l'essai soit bien fait, il faut que la dissolution de sel ne trouble plus sensiblement la liqueur, et que cette liqueur ne se trouble cependant pas lorsqu'on y ajoute une goutte de dissolution de nitrate d'argent. Lorsqu'on est arrivé à ce point et qu'on l'a bien établi, il ne reste plus qu'à peser de nouveau la burette, qu'à déduire le poids trouvé, du poids

* Si l'on était obligé d'employer le sel blanc du commerce, il serait avantageux de réduire ce sel en poudre fine et de le laver dans le moins d'eau possible ; il faudrait ensuite le presser entre des linges ou entre des papiers non collés, et le faire bien sécher avant de l'employer.

† On pourra se servir, pour verser exactement 100 grammes de la dissolution de sel dans le flacon A, de la burette D, fig. 4, comme on le dira plus bas.

‡ Si l'on voulait s'éviter les tâtonnemens dont il est ici question, il faudrait déterminer bien exactement quelle est la quantité de dissolution de sel nécessaire pour précipiter 2 grammes d'argent pur, dissous dans 10 grammes d'acide nitrique. Des calculs fort aisés à faire indiqueraient ensuite facilement ce qu'il faudrait ajouter d'eau ou de sel marin à la liqueur, s'il y manquait quelque chose. Voici quelques exemples qui aplaniront sans doute toute difficulté.

En supposant qu'il ait fallu 104 grammes de la dissolution de sel pour précipiter exactement les 2 grammes d'argent pur, il est évident qu'il y a 4 grammes d'eau de trop par 104 grammes de cette dissolution ; il faut donc en enlever ces 4 grammes d'eau par le moyen de l'évaporation, ou, ce qui sera plus facile, ajouter dans la dissolution la quantité de sel marin pur, nécessaire pour convertir ces 4 grammes d'eau en dissolution titrée. Or, d'après les bases qui ont été etablies plus haut, ce serait 0^{g} 043 de sel qu'il faudrait, pour arriver à ce but ; il ne resterait donc qu'à peser la dissolution de sel marin que l'on aurait à fortifier, et à y ajouter autant de fois 0^{g} 043 de sel marin pur, qu'elle pèserait de fois 104 grammes.

Si la dissolution de sel marin était trop concentrée, et qu'il n'en fallût, par exemple, que 95 grammes pour précipiter exactement les 2 grammes d'argent pur, il suffirait, dans ce cas, de peser la dissolution dont il s'agit, et d'y ajouter autant de fois 5 grammes d'eau distillée, qu'elle pèserait de fois 95 grammes.

On peut, en opérant ainsi, s'éviter bien des tâtonnemens. On conseille cependant de ne regarder la dissolution saline comme étant bien constituée, qu'après avoir plusieurs fois constaté qu'il en faut exactement 100 grammes pour précipiter 2 grammes d'argent fin, dissous dans 10 grammes d'acide nitrique.

poids primitif, et qu'à ajouter un zéro à la différence, si le nombre est entier, ou à reculer la virgule d'une place vers la droite, s'il est fractionnaire. On obtient ainsi, en millièmes et fractions décimales de millième, le titre de l'argent soumis à l'essai. Un seul exemple du calcul à faire, dans ces deux cas, éclaircira suffisamment ce qui vient d'être dit à ce sujet.

Supposons que le poids de la burette pleine de dissolution de sel titrée soit de	307g
Et que son poids, après l'essai, soit de	217
On aurait employé en dissolution de sel	90g

Ce qui représenterait exactement le titre de 900 millièmes.

En supposant que la burette, pleine de dissolution saline titrée, pesât, avant l'essai	307g 56
Et après l'essai	217 00
La dissolution employée pèserait	90g 56

Ce qui donnerait le titre de 905 millièmes 6.

On croit inutile d'insister davantage sur les precautions à prendre en partiquant ce nouveau mode d'essai, parce qu'on pourra s'y habituer facilement, en n'opérant d'abord que sur de l'argent pur, ou sur des alliages d'argent à des titres bien connus; il sera d'ailleurs toujours utile de s'aider de la coupellation, toutes les fois qu'on le pourra, pour s'éviter de longs tâtonnemens, ou la peine de recommencer les essais dans lesquels on aurait employé de prime abord trop de dissolution saline*. En opérant ainsi, on pourra verser de suite, dans la dissolution des deux grammes d'argent, toute la dissolution de sel équivalant au titre trouvé par la coupellation; on n'aura plus qu'à tâtonner pour obtenir les derniers millièmes que l'on perd au fourneau à coupelle, et qui sont indiqués approximativement dans la table de compensation qui fait partie de cette instruction.

Ce nouveau moyen d'essai, si parfait lorsqu'on n'a qu'à déterminer le titre de l'argent et de ses alliages avec le cuivre, n'est malheureusement pas aussi simple, lorsqu'il s'agit d'alliages d'argent contenant de l'or; il faut alors déterminer d'abord la quantité d'or, comme on le fait ordinairement, et comme il a été dit plus haut, en parlant des essais des alliages d'or et d'argent, et chercher ensuite, par la voie humide, quelle est la proportion exacte de l'argent dans l'alliage essayé.

Si l'alliage ne contenait pas assez d'argent pour que le départ pût être opéré, il faudrait faire l'inquartation avec de l'argent pur, et en pesant exactement la quantité d'argent employée. On passerait l'essai à la coupelle, comme il a été dit plus haut, en parlant des essais d'or tenant argent ou d'argent contenant un peu d'or. On ferait le départ du bouton; on réunirait, avec soin, la dissolution d'argent et les lavages du cornet; on déterminerait, par le procédé de la voie humide, la quantité d'argent qui se trouverait dans ces liqueurs, et on en déduirait la quantité d'argent employée pour l'inquartation; la différence indiquerait exactement la proportion d'argent dans l'alliage essayé. Si cet alliage contenait assez d'argent pour que le départ pût être fait sans avoir recours à l'inquartation, il suffirait alors de coupeller la prise d'essai en prenant les précautions qui ont été indiquées ci-dessus; d'opérer le départ du bouton, et enfin de déterminer par la voie humide, et comme on vient de le dire, la quantité d'argent qui se trouverait dans ces liqueurs.

On voit qu'en réunissant les données acquises par ces procédés, on parviendra à la connaissance exacte de la composition des alliages dont il s'agit, résultat des plus satisfaisans, puisqu'avant la connaissance du procédé par la voie humide, et en opérant par la coupellation et le départ, le titre argent de l'alliage était constamment indiqué beaucoup trop bas.

On terminera cette instruction en rappelant aux essayeurs que, dans le refroidissement des alliages coulés en lingots, l'alliage perd toujours plus ou moins de son homogénéité; qu'il existe dans le commerce des lingots dont l'alliage fondu a été mal brassé; qu'il s'y trouve d'autres lingots fourrés, ou saupoudrés, au moment de la coulée, avec de l'or ou de l'argent à plus haut titre; et enfin, des lingots affinés à leur surface par un très-fort blanchîment; d'où il suit que devant déclarer le titre exact des lingots qui leur sont présentés, et étant responsables des titres qu'ils déclarent, les essayeurs ont le plus grand intérêt à bien constater, avant tout, l'homogénéité des lingots qu'ils essaient, et à refuser d'y apposer leur poinçon, s'ils reconnaissent l'impossibilité de le faire avec sécurité. Lorsqu'un cas pareil se présente au laboratoire des essais, on y est autorisé à agir ainsi, et on

* Si l'on avait outrepassé le point de saturation, on pourrait cependant se dispenser de recommencer l'opération. Il faudrait employer une dissolution d'argent titrée pour rectifier l'essai. On se propose au reste de publier une description plus détaillée de ce procédé dans le Manuel de l'Essayeur, dont la commission des monnaies vient de demander la rédaction. On y fera connaître diverses manipulations qui peuvent simplifier ce mode d'essai, et particulièrement la substitution des volumes aux poids, qui peut le rendre d'une application plus facile et par conséquent plus fréquente.

(B.)
French Mint.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

on n'y détermine définitivement le titre de pareils lingots, qu'en les refondant, les brassant avec soin, et en essayant quelques grammes, pris avec une cuiller de fer, immédiatement après le dernier brassage et au moment même de la coulée.

Paris, le 7 Juin 1830. (signé) *D'Arcet* et *Gay-Lussac.*

La présente instruction, rédigée par MM. d'Arcet, directeur des essais, et Gay-Lussac, essayeur du bureau de garantie de Paris, membres de l'académie royale des sciences, est adoptée par la Commission des Monnaies, et soumise à l'approbation de S. Exc. le Ministre Secrétaire d'Etat des Finances, en exécution de l'article 1er. de l'ordonnance du 6 Juin 1830.

(signé) Cte *De Sussy*, Pair de France, Président.
Paris, le 7 Juin 1820. *Lambert* et *Brunet*, Commissaires Généraux.

Approuvé. Paris, le 10 Juin 1830. Le Ministre Secrétaire d'Etat des Finances,
(signé) *Montbel.*

Pour ampliation : Le Secrétaire Général des Finances,
(signé) *De Boubers.*

TABLE de Compensation pour l'Essai des Matières d'Argent, adoptée au Laboratoire des Essais de la Commission des Monnaies.

TITRES Exacts.	TITRES trouvés par la Coupellation.	PERTES ou Quantités de Fin à ajouter aux Titres Correspondans, obtenus par la Coupellation.	TITRES Exacts.	TITRES trouvés par la Coupellation.	PERTES ou Quantités de Fin à ajouter aux Titres Correspondans, obtenus par la Coupellation.
1000	998.97	1.03	500	495.32	4.68
975	973.24	1.76	475	470.50	4.50
950	947.50	2.50	450	445.69	4.31
925	921.75	3.25	425	420.87	4.13
900	896.	4.	400	396.05	3.95
875	870.93	4.07	375	371.39	3.61
850	845.85	4.15	350	346.73	3.27
825	820.78	4.22	325	322.06	2.94
800	795.70	4.30	300	297.40	2.60
775	770.59	4.41	275	272.42	2.58
750	745.48	4.52	250	247.44	2.56
725	720.36	4.64	225	222.45	2.55
700	695.25	4.75	200	197.47	2.53
675	670.27	4.73	175	172.88	2.12
650	645.29	4.71	150	148.30	1.70
625	620.30	4.70	125	123.71	1.29
600	595.32	4.68	100	99.12	0.88
575	570.32	4.68	75	74.34	0.66
550	545.32	4.68	50	49.56	0.44
525	520.32	4.68	25	24.78	0.22

Paris, le 26 Avril 1830.

Le Directeur des Essais, (signé) *D'Arcet.*
Le Vérificateur, (signé) *Bréant.*
Les Essayeurs des Monnaies, (signé) *Chevillot, Chaudet.*

Arrêté par la Commission des Monnaies, le 29 Avril 1830.

Les Commissaires Généraux, (signé) *Lambert, Brunet.*

Le Pair de France, Président,
(signé) Cte *De Sussy.*

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

Commission des Monnaies.

No.
Perception, aux changes, des frais d'affinage, d'après le tarif annexé à l'ordonnance du 15 Octobre 1828.

— J. —

Monsieur, Paris, le — Juin 1830.

La Commission des Monnaies a eu lieu d'examiner diverses questions, soumises par quelques directeurs de fabrication, sur l'application du nouveau tarif des frais d'affinage, annexé à l'ordonnance du Roi du 15 Octobre 1828.

Il faut distinguer dans ce tarif,

1°. Les matières d'or alliées d'argent, ainsi que celles d'argent alliées d'or, lesquelles ne peuvent être employées à la fabrication des espèces sans que le départ des différens métaux n'ait eu préalablement lieu.

2°. Les matières d'or et celles d'argent alliées à du cuivre, et qui, étant au-dessous de 900 millièmes, ont besoin d'être élevées à ce titre monétaire.

Pour celles comprises dans la première catégorie, les frais d'affinage se paient par kilogramme du poids brut des matières à affiner.

Quant à celles qui se trouvent dans la deuxième hypothèse, il suffit d'en affiner une portion seulement, pour qu'en ajoutant l'or fin, ou l'argent fin, retiré de cette portion, au surplus des matières non affinées, on obtienne de l'or ou de l'argent au titre monétaire.

On ne doit donc percevoir les frais d'affinage que sur cette portion des matières, conformément à l'article 12 de la loi du 7 Germinal an XI (28 Mars 1803), qui porte textuellement que le montant des frais sera calculé sur la portion des matières qui doit être purifiée, pour en élever la totalité ou titre monétaire.

En conséquence, la Commission des Monnaies a arrêté les dispositions suivantes, qui ont été approuvées par S. Exc. le Ministre des Finances, le 15 du mois dernier:

1°. Que les frais d'affinage ne devaient être perçus, pour les matières d'or et celles d'argent alliées de cuivre (lorsqu'elles sont au-dessous de 900 millièmes), que sur la portion seulement de ces matières qu'il serait nécessaire d'affiner, pour en élever la totalité au titre monétaire.

2°. Que chaque porteur de matières de cette nature a droit de faire établir, au change, la compensation entre les titres au-dessus de 900 millièmes et les titres au-dessous, lorsque ces différentes matières sont livrées simultanément, et que les frais d'affinage ne doivent être exigés que sur la portion de ces matières qu'il serait réellement nécessaire de faire affiner, pour en élever la totalité au titre monétaire.

3°. Que les directeurs de fabrication et les contrôleurs au change doivent porter en recette, sur leurs registres et états mensuels, les frais ainsi prélevés, lesquels seront classés, au chapitre des opérations de trésorerie, sur une ligne particulière intitulée Retenue pour frais d'affinage.

4°. Que ces fonctionnaires doivent porter en dépense, article Opérations de trésorerie, comme alloué au directeur, le montant des mêmes frais sur une ligne particulière intitulée Frais d'affinage.

5°. Que si les frais d'affinage avaient été calculés par erreur dans quelque monnaie, depuis le tarif annexé à l'ordonnance du 15 Octobre 1828, sur la totalité des matières à bas titres, au lieu de l'être seulement sur la portion dont l'affinage eût été nécessaire pour les ramener au titre monétaire, il y aurait lieu de verser au trésor royal (pour être restituée aux parties intéressées qui la réclameraient) la différence qui aurait existé entre le montant des recettes évaluées d'après ces deux modes de perception, et le résultat seulement de la dernière évaluation serait alloué en dépense au directeur.

Vous trouverez, à la suite de la présente, l'ordonnance du 15 Octobre 1828, et la table qui présente les calculs pour les seules hypothèses qui offrent quelques difficultés dans l'application du tarif.

Je vous invite à veiller à l'exécution des dispositions contenues dans la présente, et à m'en accuser reception.

Je suis, Monsieur, avec une parfaite considération,
Votre très-humble et obéissant Serviteur,

Le Pair de France, Président de la Commission des Monnaies,

Cte *De Sussy.*

A M. le Commissaire du Roi près la Monnaie de

ORDONNANCE DU ROI.

Donné à Paris, le 15 Octobre 1828.

CHARLES, par la grâce de Dieu, Roi de France et de Navarre;

Vu l'article 12 de la loi du 28 Mars 1803 portant que les matières au-dessous du titre monétaire, versées au change des monnaies, supporteront les frais d'affinage;

Vu l'arrêté du 24 Mai 1803, qui a fixé la quotité de ces frais;

Considérant qu'il résulte des dispositions du deuxième paragraphe de l'article 12 ci-dessus relaté, qu'il ne doit être exigé, des porteurs de matières à bas titre, que le remboursement des frais matériels de l'affinage;

Considérant que les progrès des arts ont entièrement modifié les anciens procédés d'affinage, et que les prix actuellement perçus au change, en exécution de l'arrêté du 24 Mai 1803, sont bien supérieurs à ceux qu'occasionnent les opérations de l'affinage,

Sur le rapport de notre ministre secrétaire d'état des finances,

Nous avons ordonné et ordonnons ce qui suit:

(B.)
FRENCH MINT.
Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

Article premier.

Les frais d'affinage des matières d'or ou d'argent au-dessous du titre monétaire, ainsi que les lingots, espèces et matières contenant or et argent, quel qu'en soit le titre, qui seront apportés au change de nos hôtels des monnaies, seront perçus conformément au tarif ci-annexé.

Art. 2.

Notre ministre secrétaire d'état des finances est chargé de l'exécution de la présente ordonnance, qui sera insérée au bulletin des lois.

Donné en notre château des Tuileries, le 15 Octobre de l'an de grâce 1828, et de notre règne le cinquième.

(signé) CHARLES.

Par le Roi : Le Ministre Secrétaire d'Etat des Finances, (signé) *Roy.*

Pour ampliation : Le Secrétaire Général des Finances, (signé) *De Boubers.*

TARIF des Frais d'Affinage qui seront perçus aux Changes des Monnaies.

Affinage par l'Acide Sulfurique, pour les Matières d'Or et d'Argent, alliées de Cuivre seulement.

Première Section.

OR.	*Par Kilogramme.*
1°. Matières d'or ne contenant pas d'argent, au-dessous de neuf cents millièmes, (Titre monétaire.)	5f. 00c
2°. Matières d'or alliées d'argent, lorsqu'elles contiennent au-delà de cent millièmes d'or, pour la séparation et l'affinage des deux métaux	5. 75.

IIe. Section.

ARGENT.	
1°. Matières d'argent ne contenant pas d'or, au-dessous de neuf cents millièmes, (Titre monétaire)	2. 50.
2°. Matières d'argent contenant or (ou doré), au titre de cent millièmes d'or, et au-dessous, pour la séparation et l'affinage des deux métaux	2. 50.
Lorsque ces matières contiennent plus de neuf cents millièmes d'or, elles sont considérées comme lingots d'or tenant argent, et paient l'affinage comme tels. (Ire Section, n°. 2 ci-dessus.)	

Affinage par la Coupellation, pour les Matières d'Or et d'Argent alliées à d'autres Métaux que le Cuivre, tels que le Plomb, l'Etain, &c.

Alliage d'Or ne contenant pas d'Argent.	*Par Kilogramme.*
1°. De neuf cent quatre-vingt-dix millièmes jusqu'à trois cents millièmes	6. 00.
2°. Au-dessous de trois cents millièmes	3. 50.
Alliage d'Argent ne contenant pas d'Or.	
1°. De neuf cent quatre-vingt-dix-sept millièmes jusqu'à trois cents millièmes	3. 50.
2°. Au dessous de trois cents millièmes	2. 50.
Alliages contenant Or et Argent.	
1°. De neuf cent quatre-vingt-dix-sept millièmes à trois cents millièmes d'or et d'argent réunis	6. 00.
2°. Au-dessous de trois cents millièmes d'or et d'argent réunis	3. 50.

Certifié conforme à la délibération de la Commission des Monnaies, en date du 15 Novembre 1828.

Le Commissaire Général, (signé) *Lambert.*

Vu pour être annexé à l'ordonnance du 15 Octobre 1828.

Le Ministre Secrétaire d'Etat des Finances, (signé) *Roy.*

Observations.

1°. Il est avantageux de faire affiner les lingots d'or, même au-dessus de 900 millièmes d'or, lorsqu'ils contiennent plus de 27 millièmes d'argent ;

2°. L'or et l'argent réunis étant affinés par la coupelle peuvent ensuite être séparés l'un de l'autre au moyen de l'acide sulfurique ; les frais qu'entraîne cette seconde opération se trouvent indiqués dans la première partie de ce tarif ;

3. Les frais d'affinage se paient par kilogramme du poids brut des matières à affiner.

L'affineur rend au porteur des matières la totalité de l'or et de l'argent fins qu'elles contiennent, d'après les titres constatés par l'essayeur, en se réservant l'alliage, indépendamment des frais d'affinage portés au présent tarif.

Pour ampliation : Le Secrétaire Général des Finances, (signé) *De Boubers.*

TABLE des Frais d'Affinage, à percevoir, au Change des Monnaies, en exécution de l'Ordonnance du Roi du 15 Octobre 1828 et conformément à l'Article 12 de la Loi du 28 Mars 1803. [7 Germinal an XI.]

AFFINAGE par l'Acide Sulfurique pour les Matières d'Or et d'Argent alliées au Cuivre seulement.

1°. Pour les matières d'or ne contenant pas d'argent au-dessous de 900 millièmes, titre monétaire (No. 1 de la première section du tarif,—5 fr. par kilog.);

2°. Pour les matières d'argent ne contenant pas d'or au-dessous de 900 millièmes, titre monétaire. (No. 1 de la seconde section du tarif,—2 fr. 50 cent. par kilog.)

Nota.—On pourra se conformer à l'usage, en négligeant les fractions de centimes au-dessous de 5/10es et en mettant un centime en plus pour celles au-dessus.

TITRES.	Portion de Matières à affiner sur un Kilogramme d'après son Titre.	Frais à Percevoir pour le Nombre de Grammes ci-contre,		TITRES.	Portion de Matières à affiner sur un Kilogramme d'après son Titre.	Frais à Percevoir pour le Nombre de Grammes ci-contre,	
		Pour l'Or.	Pour l'Argent.			Pour l'Or.	Pour l'Argent.
1.	2.	3.	4.	1.	2.	3.	4.
	gramm.	*fr. c.*	*fr. c.*		*gramm.*	*fr. c.*	*fr. c.*
899	11.009	0 05.500	0 02.75	844	398.865	1 99.43	0 99.71
898	21.794	0 10.897	0 05.44	843	403.402	2 01.70	1 00.85
897	32.368	0 16.184	0 08.09	842	407.880	2 03.94	1 01.97
896	42.740	0 21.370	0 10.68	841	412.303	2 06.15	1 03.07
895	52.914	0 26.457	0 13.22	840	416.669	2 08.33	1 04.16
894	62.896	0 31.448	0 15.72	839	420.981	2 10.49	1 05.24
893	72.692	0 36.346	0 18.17	838	425.241	2 12.62	1 06.31
892	82.305	0 41.152	0 20.57	837	429.448	2 14.72	1 07.36
891	91.743	0 45.871	0 22.93	836	433.610	2 16.80	1 08.40
890	101.018	0 50.509	0 25.25	835	437.716	2 18.85	1 09.42
889	110.117	0 55.058	0 27.52	834	441.772	2 20.88	1 10.44
888	119.053	0 59.526	0 29.76	833	445.778	2 22.88	1 11.44
887	127.832	0 63.916	0 31.95	832	449.738	2 24.86	1 12.43
886	136.456	0 68.228	0 34.11	831	453.651	2 26.82	1 13.41
885	144.928	0 72.47	0 36.23	830	457.518	2 28.75	1 14.37
884	153.259	0 76.62	0 38.31	829	461.340	2 30.67	1 15.33
883	161.445	0 80.72	0 40.36	828	465.117	2 32.55	1 16.27
882	169.491	0 84.74	0 42.37	827	468.857	2 34.42	1 17.21
881	177.412	0 88.70	0 44.35	826	472.547	2 36.27	1 18.13
880	185.192	0 92.59	0 46.29	825	476.186	2 38.09	1 19 04
879	192.843	0 96.42	0 48.21	824	479.800	2 39.90	1 19.95
878	200.369	1 00.19	0 50.09	823	483.368	2 41.68	1 20.84
877	207.773	1 03.88	0 51.94	822	486.891	2 43.44	1 21.72
876	215.057	1 07.52	0 53.76	821	490.381	2 45.19	1 22.59
875	222.224	1 11.11	0 55.55	820	493.828	2 46.91	1 23.45
874	229.278	1 14.63	0 57.31	819	497.237	2 48.61	1 24.30
873	236.221	1 18.11	0 59.05	818	500.617	2 50.30	1 25.15
872	243.063	1 21.53	0 60.76	817	503.951	2 51.97	1 25.98
871	249.791	1 24.89	0 62.49	816	507.250	2 53.62	1 26.81
870	256.415	1 28.20	0 64.10	815	510.515	2 55.25	1 27.62
869	262.940	1 31.47	0 65.73	814	513.742	2 56.87	1 28.43
868	269.364	1 34.68	0 67.34	813	516.936	2 58.46	1 29.23
867	275.692	1 37.84	0 68.92	812	520.095	2 60.04	1 30.02
866	281.926	1 40.96	0 70.48	811	523.223	2 61.61	1 30.80
865	288.067	1 44.03	0 72.01	810	526.317	2 63.15	1 31.58
864	294.118	1 47.05	0 73.52	809	529.383	2 64.69	1 32.34
863	300.088	1 50.04	0 75.02	808	532.412	2 66.20	1 33.10
862	305.965	1 52.98	0 76.49	807	535.410	2 67.70	1 33.85
861	311.755	1 55.87	0 77.93	806	538.377	2 69.18	1 34.59
860	317.465	1 58.73	0 79.36	805	541.312	2 70.65	1 35.32
859	323.072	1 61.53	0 80.76	804	544.219	2 72.10	1 36.05
858	328.662	1 64.33	0 82.16	803	547.096	2 73.54	1 36.77
857	334.112	1 67.05	0 83.52	802	549.945	2 74.97	1 37.48
856	339.506	1 69.75	0 84.87	801	552.764	2 76.38	1 38.19
855	344.828	1 72.41	0 86.21	800	555.556	2 77.77	1 38.88
854	350.082	1 75.04	0 87.52	799	558.322	2 79.16	1 39.58
853	355.261	1 77.63	0 88.81	798	561.060	2 80.53	1 40.26
852	360.366	1 80.18	0 90.09	797	563.568	2 81.78	1 40.89
851	365.402	1 82.70	0 91.35	796	566.451	2 83.22	1 41.61
850	370.374	1 85.18	0 92.59	795	569.108	2 84.55	1 42.27
849	375.278	1 87.63	0 93.81	794	571.739	2 85.86	1 42.93
848	380.118	1 90.05	0 95.02	793	574.343	2 87.17	1 43.58
847	384.896	1 92.44	0 96.22	792	576.923	2 88.46	1 44.23
846	389 610	1 94.80	0 97.40	791	579.484	2 89.74	1 44.87
845	394.272	1 97.13	0 98.56	790	582.015	2 91.00	1 45.50

(*continued*)

TITRES.	Portion de Matières à affiner sur un Kilogramme d'après son Titre.	Frais à Percevoir pour le Nombre de Grammes ci-contre,		TITRES.	Portion de Matières à affiner sur un Kilogramme d'après son Titre.	Frais à Percevoir pour le Nombre de Grammes ci-contre,	
		Pour l'Or.	Pour l'Argent.			Pour l'Or.	Pour l'Argent.
1.	2.	3.	4.	1.	2.	3.	4.
	gramm.	*fr. c.*	*fr. c.*		*gramm.*	*fr. c.*	*fr. c.*
789	584.521	2 92.26	1 46.13	717	718.494	3 59.24	1 79.62
788	587.005	2 93.50	1 46.75	716	719.876	3 59.93	1 79.96
787	589.466	2 94.73	1 47.36	715	721.249	3 60.62	1 80.31
786	591.902	2 95.95	1 47.97	714	722.612	3 61.30	1 80.65
785	594.316	2 97.15	1 48.57	713	723.965	3 61.98	1 80.99
784	596.708	2 98.35	1 49.17	712	725.309	3 62.65	1 81.32
783	599.083	2 99.54	1 49.77	711	726.644	3 63.32	1 81.66
782	601.431	3 00.71	1 50.35	710	727.973	3 63.98	1 81.99
781	603.759	3 01.87	1 50.93	709	729.286	3 64.64	1 82.32
780	606.064	3 03.03	1 51.51	708	730.595	3 65.29	1 82.64
779	608.350	3 04.17	1 52.08	707	731.894	3 65.94	1 82.97
778	610.612	3 05.30	1 52.65	706	733.183	3 66.59	1 83.29
777	612.856	3 06.42	1 53.21	705	734.464	3 67.23	1 83.61
776	615.081	3 07.54	1 53.77	704	735.736	3 67.86	1 83.93
775	617.285	3 08.64	1 54.32	703	737.000	3 68.50	1 84.25
774	619.470	3 09.73	1 54.86	702	738.255	3 69.12	1 84.56
773	621.638	3 10.81	1 55.40	701	739.505	3 69.75	1 84.87
772	623.786	3 11.89	1 55.94	700	740.743	3 70.37	1 85.18
771	625.907	3 12.95	1 56.47	699	741.973	3 70.98	1 85.49
770	628.022	3 14.01	1 57.00	698	743.197	3 71.59	1 85.79
769	630.112	3 15.05	1 57.52	697	744.409	3 72.20	1 86.10
768	632.185	3 16.09	1 58.04	696	745.615	3 72.80	1 86.40
767	634.241	3 17.12	1 58.56	695	746.813	3 73.40	1 86.70
766	636.277	3 18.13	1 59.06	694	748.003	3 74.00	1 87.00
765	638.298	3 19.14	1 59.57	693	749.185	3 74.59	1 87.29
764	640.305	3 20.15	1 60.07	692	750.363	3 75.18	1 87.59
763	642.292	3 21.14	1 60.57	691	751.530	3 75.76	1 87.88
762	644.262	3 22.13	1 61.06	690	752.690	3 76.34	1 88.17
761	646.214	3 23.10	1 61.55	689	753.842	3 76.92	1 88.46
760	648.150	3 24.07	1 62.03	688	754.987	3 77.49	1 88.74
759	650.070	3 25.03	1 62.51	687	756.124	3 78.06	1 89.03
758	651.975	3 25.98	1 62.99	686	757.254	3 78.62	1 89.31
757	653.865	3 26.93	1 63.46	685	758.377	3 79.18	1 89.59
756	655.738	3 27.86	1 63.93	684	759.493	3 79.74	1 89.87
755	657.600	3 28.80	1 64.40	683	760.605	3 80.30	1 90.15
754	659.444	3 29.72	1 64.86	682	761.707	3 80.85	1 90.42
753	661.271	3 30.63	1 65.31	681	762.802	3 81.40	1 90.70
752	663.085	3 31.54	1 65.77	680	763.890	3 81.94	1 90.97
751	664.885	3 32.44	1 66.22	679	764.971	3 82.48	1 91.24
750	666.668	3 33.33	1 66.66	678	766.046	3 83.02	1 91.51
749	668.438	3 34.22	1 67.11	677	767.114	3 83.55	1 91.77
748	670.193	3 35.09	1 67.54	676	768.175	3 84.08	1 92.04
747	671.936	3 35.96	1 67.98	675	769.230	3 84.61	1 92.30
746	673.670	3 36.83	1 68.41	674	770.282	3 85.14	1 92.57
745	675.385	3 37.69	1 68.84	673	771.324	3 85.66	1 92.83
744	677.085	3 38.54	1 69.27	672	772.359	3 86.17	1 93.08
743	678.774	3 39.38	1 69.69	671	773.383	3 86.69	1 93.34
742	680.450	3 40.22	1 70.11	670	774.412	3 87.20	1 93.60
741	682.112	3 41.05	1 70.52	669	775.429	3 87.71	1 93.85
740	683.762	3 41.88	1 70.94	668	776.439	3 88.21	1 94.10
739	685.399	3 42.69	1 71.34	667	777.444	3 88.72	1 94.36
738	687.023	3 43.51	1 71.75	666	778.443	3 89.22	1 94.61
737	688.638	3 44.31	1 72.15	665	779.438	3 89.71	1 94.85
736	690.239	3 45.11	1 72.55	664	780.425	3 90.21	1 95.10
735	691.826	3 45.91	1 72.95	663	781.406	3 90.70	1 95.35
734	693.403	3 46.70	1 73.35	662	782.381	3 91.19	1 95.59
733	694.966	3 47.48	1 73.74	661	783.351	3 91.67	1 95.83
732	696.518	3 48.25	1 74.12	660	784.314	3 92.15	1 96.07
731	698.059	3 49.02	1 74.51	659	785.272	3 92.63	1 96.31
730	699.588	3 49.79	1 74.89	658	786.225	3 93.11	1 96.55
729	701.107	3 50.55	1 75.27	657	787.172	3 93.58	1 96.79
728	702.618	3 51.30	1 75.65	656	788.116	3 94.05	1 97.02
727	704.114	3 52.05	1 76.02	655	789.052	3 94.52	1 97.26
726	705.599	3 52.79	1 76.39	654	789.982	3 94.99	1 97.49
725	707.073	3 53.53	1 76.76	653	790.907	3 95.45	1 97.72
724	708.536	3 54.26	1 77.13	652	791.827	3 95.91	1 97.95
723	709.990	3 54.99	1 77.49	651	792.744	3 96.37	1 98.18
722	711.432	3 55.71	1 77.85	650	793.651	3 96.82	1 98.41
721	712.864	3 56.43	1 78.21	649	794.555	3 97.27	1 98.63
720	714.286	3 57.14	1 78.57	648	795.454	3 97.72	1 98.86
719	715.701	3 57.85	1 78.92	647	796.351	3 98.17	1 99.08
718	717.103	3 58.55	1 79.27	646	797.240	3 98.62	1 99.31

TITRES.	Portion de Matières à affiner sur un Kilogramme d'après son Titre.	Frais à Percevoir pour le Nombre de Grammes ci-contre,	
		Pour l'Or.	Pour l'Argent.
1.	2.	3.	4.
	gramm.	*fr. c.*	*fr. c.*
645	798.123	3 99.06	1 99.53
644	799.002	3 99.50	1 99.75
643	799.876	3 99.93	1 99.96
642	800.745	4 00.37	2 00.18
641	801.610	4 00.80	2 00.40
640	802.469	4 01.23	2 00.61
639	803.324	4 01.66	2 00.83
638	804.176	4 02.08	2 01.04
637	805.021	4 02.51	2 01.25
636	805.862	4 02.93	2 01.46
635	806.698	4 03.34	2 01.67
634	807.530	4 03.76	2 01.88
633	808.356	4 04.18	2 02.09
632	809.179	4 04.58	2 02.29
631	809.997	4 04.99	2 02.49
630	810.810	4 05.40	2 02.70
629	811.622	4 05.81	2 02.90
628	812.427	4 06.21	2 03.10
627	813.227	4 06.61	2 03.30
626	814.024	4 07.01	2 03.50
625	814.816	4 07.40	2 03.70
624	815.603	4 07.80	2 03.90
623	816.387	4 08.19	2 04.09
622	817.166	4 08.58	2 04.29
621	817.941	4 08.97	2 04.48
620	818.715	4 09.35	2 04.67
619	819.482	4 09.74	2 04.87
618	820.246	4 10.12	2 05.06
617	821.005	4 10.50	2 05.25
616	821.760	4 10.88	2 05.44
615	822.511	4 11.25	2 05.62
614	823.259	4 11.62	2 05.81
613	824.002	4 12.00	2 06.00
612	824.742	4 12.37	2 06.18
611	825.480	4 12.74	2 56.37
610	826.212	4 13.10	2 06.55
609	826.941	4 13.47	2 06.73
608	827.665	4 13.83	2 06.91
607	828.386	4 14.19	2 07.09
606	829.104	4 14.55	2 07.27
605	829.311	4 14.65	2 07.32
604	830.527	4 15.26	2 07.63
603	831.234	4 15.61	2 07.80
602	831.939	4 15.96	2 07.98
601	832.639	4 16.31	2 08.15
600	833.335	4 16.66	2 08.33
599	834.027	4 17.01	2 08.50
598	834.716	4 17.35	2 08.67
597	835.401	4 17.70	2 08.85
596	836.084	4 18.04	2 09.02
595	836.762	4 18.38	2 09.19
594	837.438	4 18.71	2 09.35
593	838.113	4 19.05	2 09.52
592	838.781	4 19.39	2 09.69
591	839.447	4 19.72	2 09.86
590	840.109	4 20.05	2 10.02
589	840.768	4 20.38	2 10.19
588	841.424	4 20.71	2 10.35
587	842.077	4 21.03	2 10.51
586	842.727	4 21.36	2 10.68
585	843.373	4 21.68	2 10.84
584	844.019	4 22.00	2 11.00
583	844.659	4 22.32	2 11.16
582	845.296	4 22.64	2 11.32
581	845.930	4 22.96	2 11.48
580	846.561	4 23.28	2 11.64
579	847.190	4 23.59	2 11.79
578	847.815	4 23.90	2 11.95
577	848.437	4 24.21	2 12.10
576	849.056	4 24.52	2 12.26
575	849.675	4 24.83	2 12.41
574	850.288	4 25.14	2 12.57

TITRES.	Portion de Matières à affiner sur un Kilogramme d'après son Titre.	Frais à Percevoir pour le Nombre de Grammes ci-contre.	
		Pour l'Or.	Pour l'Argent.
1.	2.	3.	4.
	gramm.	*fr. c.*	*fr. c.*
573	850.889	4 25.44	2 12.72
572	851.507	4 25.75	2 12.87
571	852.111	4 26.05	2 13.02
570	852.713	4 26.35	2 13.17
569	853.313	4 26.65	2 13.32
568	853.909	4 26.95	2 13.47
567	854.503	4 27.25	2 13.62
566	855.096	4 27.54	2 13.77
565	855.685	4 27.84	2 13.92
564	856.270	4 28.13	2 14.06
563	856.853	4 28.42	2 14.21
562	857.433	4 28.71	2 14.35
561	858.011	4 29.00	2 14.50
560	858.586	4 29.29	2 14.64
559	859.158	4 29.57	2 14.78
558	859.728	4 29.86	2 14.93
557	860.297	4 30.14	2 15.07
556	860.862	4 30.43	2 15.21
555	861.424	4 30.71	2 15.35
554	861.984	4 30.99	2 15.49
553	862.541	4 31.27	2 15.63
552	863.095	4 31.54	2 15.77
551	863.648	4 31.82	2 15.91
550	864.191	4 32.09	2 16.04
549	864.745	4 32.37	2 16.18
548	865.292	4 32.64	2 16.32
547	865.834	4 32.91	2 16.45
546	866.374	4 33.18	2 16.59
545	866.912	4 33.45	2 16.72
544	867.447	4 33.72	2 16.86
543	867.980	4 33.99	2 16.99
542	868.510	4 34.25	2 17.12
541	869.039	4 34.51	2 17.25
540	869.565	4 34.78	2 17.39
539	870.091	4 35.04	2 17.52
538	870.612	4 35.30	2 17.65
537	871.131	4 35.56	2 17.78
536	871.648	4 35.82	2 17.91
535	872.163	4 36.08	2 18.04
534	872.675	4 36.33	2 18.16
533	873.186	4 36.59	2 18.29
532	873.694	4 36.84	2 18.42
531	874.200	4 37.10	2 18.55
530	874.706	4 37.35	2 18.67
529	875.208	4 37.60	2 18.80
528	875.707	4 37.85	2 18.92
527	876.295	4 38.10	2 19.05
526	876.700	4 38.35	2 19.17
525	877.193	4 38.59	2 19.29
524	877.684	4 38.84	2 19.42
523	878.174	4 39.08	2 19.54
522	878.661	4 39.33	2 19.66
521	879.148	4 39.57	2 19.78
520	879.631	4 39.81	2 19.90
519	880.112	4 40.06	2 20.03
518	880.591	4 40.29	2 20.14
517	881.068	4 40.53	2 20.26
516	881.543	4 40.77	2 20.38
515	882.016	4 41.00	2 20.50
514	882.487	4 41.24	2 20.62
513	882.956	4 41.47	2 20.73
512	883.226	4 41.61	2 20.80
511	883.891	4 41.94	2 20.97
510	884.355	4 42.17	2 21.08
509	884.816	4 42.40	2 21.20
508	885.276	4 42.63	2 21.31
507	885.734	4 42.87	2 21.43
506	886.190	4 43.09	2 21.54
505	886.644	4 43.32	2 21.66
504	887.096	4 43.54	2 21.77
503	887.549	4 43.77	2 21.88
502	887.997	4 43.99	2 21.99

(*continued*)

TITRES.	Portion de Matières à affiner sur un Kilogramme d'après son Titre.	Frais à Percevoir pour le Nombre de Grammes ci-contre,	
		Pour l'Or.	Pour l'Argent.
1.	2.	3.	4.
	gramm.	*fr. c.*	*fr. c.*
501	888.444	4 44.22	2 22.11
500	888.890	4 44.44	2 22.22
499	889.333	4 44.66	2 22.33
498	889.774	4 44.88	2 22.44
497	890.214	4 45.10	2 22.55
496	890.652	4 45.32	2 22.66
495	891.089	4 45.54	2 22.77
494	891.525	4 45.76	2 22.88
493	891.958	4 45.97	2 22.98
492	892.389	4 46.19	2 23.09
491	892.819	4 46.40	2 23.20
490	893.247	4 46.62	2 23.31
489	893.673	4 46.83	2 23.41
488	894.097	4 47.04	2 23.52
487	894.520	4 47.26	2 23.63
486	894.941	4 47.47	2 23.73
485	895.363	4 47.68	2 23.84
484	895.781	4 47.89	2 23.94
483	896.197	4 48.09	2 24.04
482	896.611	4 48.30	2 24.15
481	897.025	4 48.51	2 24.25
480	897.436	4 48.71	2 24.35
479	897.846	4 48.92	2 24.46
478	898.254	4 49.12	2 24.56
477	898.661	4 49.33	2 24.66
476	899.068	4 49.53	2 24.76
475	899.472	4 49.73	2 24.86
474	899.874	4 49.93	2 24.96
473	900.275	4 50.13	2 25.06
472	900.674	4 50.33	2 25.16
471	901.071	4 50.53	2 25.26
470	901.467	4 50.73	2 25.36
469	901.862	4 50.93	2 25.46
468	902.255	4 51.12	2 25.56
467	902.649	4 51.32	2 25.66
466	903.039	4 51.51	2 25.75
465	903.428	4 51.71	2 25.85
464	903.815	4 51.91	2 25.95
463	904.201	4 52.10	2 26.05
462	904.585	4 52.29	2 26.14
461	904.968	4 52.48	2 26.24
460	905.350	4 52.67	2 26.33
469	905.730	4 52.86	2 26.43
458	906.110	4 53.05	2 26.52
457	906.488	4 53.24	2 26.62
456	906.863	4 53.43	2 26.71
455	907.238	4 53.61	2 26.80
454	907.611	4 53.80	2 26.90
453	907.983	4 53.99	2 26.99
452	908.354	4 54.17	2 27.08
451	908.724	4 54.36	2 27.18
450	909.090	4 54.54	2 27.27
449	909.459	4 54.72	2 27.36
448	909.824	4 54.91	2 27.45
447	910.188	4 55.09	2 27.54
446	910.541	4 55.27	2 27.63
445	910.911	4 55.45	2 27.72
444	911.271	4 55.63	2 27.81
443	911.630	4 55.81	2 27.90
442	911.987	4 55.99	2 27.99
441	912.343	4 56.17	2 28.08
440	912.700	4 56.35	2 28.17
439	913.053	4 56.52	2 28.26
438	913.405	4 56.70	2 28.35
437	913.756	4 56.87	2 28.43
436	914.106	4 57.05	2 28.52
435	914.454	4 57.22	2 28.61
434	914.802	4 57.40	2 28.70
433	915.150	4 57.57	2 28.78
432	915.490	4 57.74	2 28.87
431	915.840	4 57.92	2 28.96
430	916.180	4 58.09	2 29.04

TITRES.	Portion de Matières à affiner sur un Kilogramme d'après son Titre.	Frais à Percevoir pour le Nombre de Grammes ci-contre,	
		Pour l'Or.	Pour l'Argent.
1.	2.	3.	4.
	gramm.	*fr. c.*	*fr. c.*
429	916.520	4 58.26	2 29.13
428	916.800	4 58.40	2 29.20
427	917.200	4 58.60	2 29.30
426	917.540	4 58.77	2 29.38
425	917.870	4 58.93	2 29.46
424	918.210	4 59.10	2 29.55
423	918.540	4 59.27	2 29.63
422	918.880	4 59.44	2 29.72
421	919.210	4 59.60	2 29.80
420	919.540	4 59.77	2 29.88
419	919.870	4 59.93	2 29.96
418	920.200	4 60.10	2 30.05
417	920.530	4 60.26	2 30.13
416	920.850	4 60.42	2 30.21
415	921.180	4 60.59	2 30.29
414	921.500	4 60.75	2 30.37
413	921.820	4 60.91	2 30.45
412	922.150	4 61.07	2 30.53
411	922.470	4 61.23	2 30.61
410	922.790	4 61.39	2 30.69
409	923.110	4 61.55	2 30.77
408	923.410	4 61.70	2 30.85
407	923.740	4 61.87	2 30.93
406	924.050	4 62.02	2 31.01
405	924.369	4 62.18	2 31.09
404	924.680	4 62.34	2 31.17
403	924.990	4 62.49	2 31.24
402	925.310	4 62.65	2 31.32
401	925.620	4 62.81	2 31.40
400	925.930	4 62.96	2 31.48
399	926.230	4 63.11	2 31.55
398	926.540	4 63.27	2 31.63
397	926.850	4 63.42	2 31.71
396	927.150	4 63.57	2 31.78
395	927.460	4 63.73	2 31.86
394	927.760	4 63.88	2 31.94
393	928.060	4 64.03	2 32.01
392	928.360	4 64.18	2 32.09
391	928.660	4 64.33	2 32.16
390	928.960	4 64.48	2 32.24
389	929.260	4 64.63	2 32.31
388	929.560	4 64.78	2 32.39
387	929.850	4 64.92	2 32.46
386	930.150	4 65.07	2 32.53
385	930.440	4 65.22	2 32.61
384	930.730	4 65.36	2 32.68
383	931.030	4 65.51	2 32.75
382	931.320	4 65.66	2 32.83
381	931.610	4 65.80	2 32.90
380	931.900	4 65.95	2 32.97
379	932.190	4 66.09	2 33.04
378	932.480	4 66.24	2 33.12
377	932.764	4 66.38	2 33.19
376	933.050	4 66.52	2 33.26
375	933.334	4 66.66	2 33.33
374	933.620	4 66.81	2 33.40
373	933.900	4 66.95	2 33.47
372	934.180	4 67.09	2 33.54
371	934.460	4 67.23	2 33.61
370	934.740	4 67.37	2 33.68
369	935.020	4 67.51	2 33.75
368	935.300	4 67.65	2 33.82
367	935.580	4 67.79	2 33.89
366	935.860	4 67.93	2 33.96
365	936.130	4 68.06	2 34.03
364	936.410	4 68.20	2 34.10
363	936.680	4 68.34	2 34.17
362	936.960	4 68.48	2 34.24
361	937.230	4 68.61	2 34.30
360	937.500	4 68.75	2 34.37
359	937.770	4 68.88	2 34.44
358	938.040	4 69.02	2 34.51

TITRES.	Portion de Matières à affiner sur un Kilogramme d'après son Titre.	Frais à Percevoir pour le Nombre de Grammes ci-contre,		TITRES.	Portion de Matières à affiner sur un Kilogramme d'après son Titre.	Frais à Percevoir pour le Nombre de Grammes ci-contre,	
		Pour l'Or.	Pour l'Argent.			Pour l'Or.	Pour l'Argent.
1.	2.	3.	4.	1.	2.	3.	4.
	gramm.	*fr.* c.	*fr.* c.		*gramm.*	*fr.* c.	*fr.* c.
357	938.310	4 69.15	2 34.57	285	955.720	4 77.86	2 38.93
356	938.580	4 69.29	2 34.64	284	955.930	4 77.96	2 38.98
355	938.850	4 69.42	2 34.71	283	956.140	4 78.07	2 39.03
354	939.110	4 69.55	2 34.77	282	956.360	4 78.18	2 39.09
353	939.380	4 69.69	2 34.84	281	956.580	4 78.29	2 39.14
352	939.640	4 69.82	2 34.91	280	956.790	4 78.39	2 39.19
351	939.907	4 69.95	2 34.97	279	957.000	4 78.50	2 39.25
350	940.170	4 70.08	2 35.04	278	957.220	4 78.61	2 39.30
349	940.430	4 70.21	2 35.10	277	957.430	4 78.71	2 39.35
348	940.700	4 70.35	2 35.17	276	957.640	4 78.82	2 39.41
347	940.960	4 70.48	2 35.24	275	957.850	4 78.92	2 39.46
346	941.220	4 70.61	2 35.30	274	958.070	4 79.03	2 39.51
345	941.480	4 70.74	2 35.37	273	958.280	4 79.14	2 39.57
344	941.730	4 70.86	2 35.43	272	958.490	4 79.24	2 39.62
343	941.990	4 70.99	2 35.49	271	958.690	4 79.34	2 39.67
342	942.225	4 71.11	2 35.55	270	958.900	4 79.45	2 39.72
341	942.510	4 71.25	2 35.62	269	959.110	4 79.55	2 39.77
340	942.760	4 71.38	2 35.69	268	959.320	4 79.66	2 39.83
339	943.020	4 71.51	2 35.75	267	959.520	4 79.76	2 39.88
338	943.270	4 71.63	2 35.81	266	959.730	4 79.86	2 39.93
337	943.520	4 71.76	2 35.88	265	959.940	4 79.97	2 39.98
336	943.780	4 71.89	2 35.94	264	960.140	4 80.07	2 40.03
335	944.030	4 72.01	2 36.00	263	960.350	4 80.17	2 40.08
334	944.280	4 72.14	2 36.07	262	960.550	4 80.27	2 40.13
333	944.530	4 72.26	2 36.13	261	960.760	4 80.38	2 40.19
332	944.780	4 72.39	2 36.19	260	960.960	4 80.48	2 40.24
331	945.030	4 72.51	2 36.25	259	961.160	4 80.58	2 40.29
330	945.270	4 72.63	2 36.31	258	961.370	4 80.68	2 40.34
329	945.520	4 72.76	2 36.38	257	961.570	4 80.78	2 40.39
328	945.770	4 72.88	2 36.44	256	961.770	4 80.88	2 40.44
327	946.010	4 73.00	2 36.50	255	961.970	4 80.98	2 40.49
326	946.260	4 73.13	2 36.56	254	962.170	4 81.08	2 40.54
325	946.500	4 73.25	2 36.62	253	962.370	4 81.18	2 40.59
324	946.750	4 73.37	2 36.68	252	962.570	4 81.28	2 40.64
323	946.990	4 73.49	2 36.74	251	962.770	4 81.38	2 40.69
322	947.230	4 73.66	2 36.83	250	962.960	4 81.48	2 40.74
321	947.470	4 73.73	2 36.86	249	963.160	4 81.58	2 40.79
320	947.710	4 73.85	2 36.92	248	963.360	4 81.68	2 40.84
319	947.950	4 73.97	2 36.98	247	963.550	4 81.77	2 40.88
318	948.190	4 74.09	2 37.04	246	963.750	4 81.87	2 40.93
317	948.430	4 74.21	2 37.10	245	963.940	4 81.97	2 40.98
316	948.670	4 74.33	2 37.16	244	964.140	4 82.07	2 41.03
315	948.910	4 74.45	2 37.22	243	964.330	4 82.16	2 41.08
314	949.140	4 74.57	2 37.28	242	964.530	4 82.26	2 41.13
313	949.380	4 74.69	2 37.34	241	964.720	4 82.36	2 41.18
312	949.610	4 74.80	2 37.40	240	964.910	4 82.45	2 41.22
311	949.850	4 74.92	2 37.46	239	965.100	4 82.55	2 41.27
310	950.008	4 75.00	2 37.50	238	965.300	4 82.65	2 41.32
309	950.310	4 75.15	2 37.57	237	965.490	4 82.74	2 41.37
308	950.550	4 75.27	2 37.63	236	965.690	4 82.84	2 41.42
307	950.780	4 75.39	2 37.69	235	965.870	4 82.93	2 41.46
306	951.010	4 75.50	2 37.75	234	966.060	4 83.03	2 41.51
305	951.240	4 75.62	2 37.81	233	966.250	4 83.12	2 41.56
304	951.470	4 75.73	2 37.86	232	966.440	4 83.22	2 41.61
303	951.700	4 75.85	2 37.92	231	966.620	4 83.31	2 41.65
302	951.930	4 75.96	2 37.98	230	966.810	4 83.40	2 41.70
301	952.150	4 76.07	2 38.03	229	967.000	4 83.50	2 41.75
300	952.380	4 76.19	2 38.09	228	967.190	4 83.59	2 41.79
299	952.610	4 76.30	2 38.15	227	967.370	4 83.68	2 41.84
298	952.830	4 76.41	2 38.20	226	967.560	4 83.78	2 41.89
297	953.060	4 76.53	2 38.26	225	967.740	4 83.87	2 41.93
296	953.280	4 76.64	2 38.32	224	967.920	4 83.96	2 41.98
295	953.510	4 76.75	2 38.37	223	968.110	4 84.05	2 42.02
294	953.730	4 76.86	2 38.43	222	968.290	4 84.14	2 42.07
293	953.950	4 76.97	2 38.48	221	968.480	4 84.24	2 42.12
292	954.170	4 77.08	2 38.54	220	968.660	4 84.33	2 42.16
291	954.400	4 77.20	2 38.60	219	968.840	4 84.42	2 42.21
290	954.610	4 77.30	2 38.65	218	969.020	4 84.51	2 42.25
289	954.840	4 77.42	2 38.71	217	969.210	4 84.60	2 42.30
288	955.060	4 77.53	2 38.76	216	969.390	4 84.69	2 42.34
287	955.270	4 77.63	2 38.81	215	969.570	4 84.78	2 42.39
286	955.490	4 77.74	2 38.87	214	969.750	4 84.87	2 42.43

TITRES.	Portion de Matières à affiner sur un Kilogramme d'après son Titre.	Frais à Percevoir pour le Nombre de Grammes ci-contre,	
		Pour l'Or.	Pour l'Argent.
1.	2.	3.	4.
	gramm.	*fr. c.*	*fr. c.*
213	969.930	4 84.96	2 42.48
212	970.110	4 85.05	2 42.52
211	970.290	4 85.14	2 42.57
210	970.460	4 85.23	2 42.61
209	970.640	4 85.32	2 42.66
208	970.820	4 85.41	2 42.70
207	971.000	4 85.50	2 42.75
206	971.170	4 85.58	2 42.79
205	971.350	4 85.67	2 42.83
204	971.525	4 85.762	2 42.881
203	971.700	4 85.800	2 42.900
202	971.874	4 85.937	2 42.968
201	972.048	4 86.024	2 43.012
200	972.222	4 86.111	2 43.055
199	972.395	4 86.197	2 43.098
198	972.566	4 86.284	2 43.142
197	972.742	4 86.371	2 43.185
196	972.914	4 86.457	2 43.228
195	973.085	4 86.542	2 43.271
194	973.256	4 86.628	2 43.314
193	973.427	4 86.713	2 43.356
192	973.597	4 86.798	2 43.399
191	973.767	4 86.883	2 43.441
190	973.937	4 86.968	2 43.484
189	974.106	4 87.053	2 43.526
188	974.275	4 87.137	2 43.568
187	974.444	4 87.222	2 43.611
186	974.611	4 87.305	2 43.652
185	974.779	4 87.389	2 43.694
184	974.946	4 87.473	2 43.736
183	975.112	4 87.556	2 43.778
182	975.278	4 87.639	2 43.819
181	975.444	4 87.722	2 43.861
180	975.609	4 87.804	2 43.902
179	975.775	4 87.887	2 43.943
178	975.940	4 87.970	2 43.985
177	976.104	4 88.052	2 44.026
176	976.268	4 88.134	2 44.067
175	976.431	4 88.215	2 44.107
174	976.594	4 88.297	2 44.148
173	976.756	4 88.378	2 44.189
172	976.919	4 88.459	2 44.229
171	977.080	4 88.540	2 44.270
170	977.243	4 88.621	2 44.310
169	977.404	4 88.702	2 44.351
168	977.564	4 88.782	2 44.391
167	977.725	4 88.862	2 44.431
166	977.884	4 88.942	2 44.471
165	978.039	4 89.019	2 44.509
164	978.203	4 89.101	2 44.550
163	978.362	4 89.181	2 44.590
162	978.519	4 89.259	2 44.629
161	978.679	4 89.339	2 44.669
160	978.838	4 89.419	2 44.709
159	978.994	4 89.497	2 44.748
158	979.150	4 89.575	2 44.787
157	979.307	4 89.653	2 44.826
156	979.463	4 89.731	2 44.865
155	979.618	4 89.809	2 44.904
154	979.774	4 89.887	2 44.943
153	979.929	4 89.964	2 44.982
152	980.084	4 90.042	2 45.021
151	980.239	4 90.119	2 45.059
150	980.392	4 90.196	2 45.098
149	980.546	4 90.273	2 45.136
148	980.699	4 90.349	2 45.174
147	980.852	4 90.426	2 45.213
146	981.004	4 90.502	2 45.251
145	981.156	4 90.578	2 45.289
144	981.307	4 90.653	2 45.326
143	981.460	4 90.730	2 45.365
142	981.611	4 90.805	2 45.402

TITRES.	Portion de Matières à affiner sur un Kilogramme d'après son Titre.	Frais à Percevoir pour le Nombre de Grammes ci-contre,	
		Pour l'Or.	Pour l'Argent.
1.	2.	3.	4.
	gramm.	*fr. c.*	*fr. c.*
141	981.762	4 90.881	2 45.440
140	981.912	4 90.956	2 45.478
139	982.062	4 91.031	2 45.515
138	982.212	4 91.106	2 45.553
137	982.361	4 91.180	2 45.590
136	982.510	4 91.255	2 45.627
135	982.659	4 91.329	2 45.664
134	982.808	4 91.404	2 45.702
133	982.956	4 91.478	2 45.739
132	983.103	4 91.551	2 45.775
131	983.250	4 91.625	2 45.812
130	983.397	4 91.698	2 45.849
129	983.544	4 91.772	2 45.886
128	983.689	4 91.844	2 45.922
127	983.836	4 91.918	2 45.959
126	983.981	4 91.990	2 45.995
125	984.128	4 92.064	2 46.032
124	984.272	4 92.136	2 46.068
123	984.417	4 92.208	2 46.104
122	984.560	4 92.280	2 46.140
121	984.705	4 92.352	2 46.176
120	984.848	4 92.424	2 46.212
119	984.990	4 92.495	2 46.247
118	985.136	4 92.568	2 46.284
117	985.277	4 92.638	2 46.319
116	985.420	4 92.710	2 46.355
115	985.562	4 92.781	2 46.390
114	985.704	4 92.852	2 46.426
113	985.845	4 92.922	2 46.461
112	985.986	4 92.993	2 46.496
111	986.127	4 93.063	2 46.531
110	986.267	4 93.133	2 46.566
109	986.407	4 93.203	2 46.601
108	986.547	4 93.273	2 46.636
107	986.687	4 93.343	2 46.673
106	986.826	4 93.413	2 46.706
105	986.965	4 93.482	2 46.741
104	987.103	4 93.551	2 46.775
103	987.241	4 93.620	2 46.810
102	987.379	4 93.689	2 46.844
101	987.517	4 93.758	2 46.879
100	987.654	4 93.827	2 46.913
99	987.791	4 93.895	2 46.947
98	987.929	4 93.964	2 46.982
97	988.065	4 94.032	2 47.016
96	988.201	4 94.100	2 47.050
95	988.337	4 94.168	2 47.084
94	988.472	4 94.236	2 47.118
93	988.607	4 94.303	2 47.151
92	988.742	4 94.371	2 47.185
91	988.876	4 94.438	2 47.219
90	989.010	4 94.505	2 47.252
89	989.145	4 94.572	2 47.286
88	989.279	4 94.639	2 47.319
87	989.412	4 94.706	2 47.353
86	989.545	4 94.772	2 47.386
85	989.677	4 94.838	2 47.419
84	989.811	4 94.905	2 47.452
83	989.943	4 94.971	2 47.485
82	990.075	4 95.037	2 47.518
81	990.206	4 95.103	2 47.551
80	990.339	4 95.169	2 47.584
79	990.470	4 95.235	2 47.617
78	990.600	4 95.300	2 47.650
77	990.731	4 95.365	2 47.682
76	990.861	4 95.430	2 47.715
75	990.991	4 95.495	2 47.747
74	991.120	4 95.560	2 47.780
73	991.250	4 95.625	2 47.812
72	991.379	4 95.689	2 47.844
71	991.509	4 95.754	2 47.872
70	991.637	4 95.818	2 47.909

TITRES.	Portion de Matières à affiner sur un Kilogramme d'après son Titre.	Frais à percevoir pour le Nombre de Grammes ci-contre,		TITRES.	Portion de Matières à affiner sur un Kilogramme d'après son Titre.	Frais à Percevoir pour le Nombre de Grammes ci-contre,	
		Pour l'Or.	Pour l'Argent.			Pour l'Or.	Pour l'Argent.
1.	2.	3.	4.	1.	2.	3.	
	gramm.	*fr.* *c.*	*fr.* *c.*		*gramm.*	*fr.* *c.*	*fr.* *c.*
69	991.765	4 95.882	2 47.941	34	996.090	4 98.045	2 49.022
68	991.893	4 95.946	2 47.973	33	996.208	4 98.104	2 49.052
67	992.081	4 96.040	2 48.020	32	996.327	4 98.163	2 49.081
66	992.148	4 96.074	2 48.037	31	996.445	4 98.222	2 49.111
65	992.275	4 96.137	2 48.068	30	996.563	4 98.281	2 49.140
64	992.402	4 96.201	2 48.100	29	996.681	4 98.340	2 49.170
63	992.539	4 96.269	2 48.134	28	996.799	4 98.399	2 49.199
62	992.656	4 96.328	2 48.164	27	996.916	4 98.458	2 49.229
61	992.782	4 96.391	2 48.195	26	997.034	4 98.517	2 49.258
60	992.908	4 96.454	2 48.227	25	997.151	4 98.575	2 49.287
59	993.034	4 96.517	2 48.258	24	997.268	4 98.634	2 49.317
58	993.159	4 96.579	2 48.289	23	997.384	4 98.692	2 49.346
57	993.284	4 96.642	2 48.321	22	997.501	4 98.750	2 49.375
56	993.408	4 96.704	2 48.352	21	997.616	4 98.808	2 49.404
55	993.533	4 96.766	2 48.383	20	997.732	4 98.866	2 49.433
54	993.657	4 96.828	2 48.414	19	997.848	4 96.924	2 49.462
53	993.782	4 96.891	2 48.445	18	997.763	4 98.881	2 49.440
52	993.906	4 96.953	2 48.476	17	998.079	4 99.039	2 49.519
51	994.029	4 97.014	2 48.507	16	998.194	4 99.097	2 49.548
50	994.152	4 97.076	2 48.538	15	998.308	4 99.154	2 49.577
49	994.275	4 97.137	2 48.568	14	998.422	4 99.211	2 49.605
48	994.398	4 97.199	2 48.599	13	998.536	4 99.268	2 49.634
47	994.520	4 97.260	2 48.630	12	998.650	4 99.325	2 49.662
46	994.642	4 97.321	2 48.660	11	998.764	4 99.382	2 49.691
45	994.764	4 97.382	2 48.691	10	998.877	4 99.438	2 49.719
44	994.887	4 97.443	2 48.721	9	998.991	4 99.495	2 49.747
43	995.008	4 97.504	2 48.752	8	999.104	4 99.552	2 49.776
42	995.129	4 97.564	2 48.782	7	999.217	4 99.608	2 49.804
41	995.250	4 97.625	2 48.812	6	999.329	4 99.664	2 49.832
40	995.370	4 97.685	2 48.842	5	999.442	4 99.721	2 49.860
39	995.491	4 97.745	2 48.872	4	999.554	4 99.777	2 49.888
38	995.611	4 97.805	2 48.902	3	999.665	4 99.832	2 49.916
37	995.731	4 97.865	2 48.932	2	999.777	4 99.888	2 49.944
36	995.850	4 97.925	2 48.962	1	999.888	4 99.944	2 49.972
35	996.070	4 98.035	2 49.017				

MANIÈRE de se servir de la Table.

Exemple:

On apporte au change 25 kilog. d'or ou d'argent à 850 millièmes.

Pour connaître la portion à affiner,

Il suffit de multiplier la quantité de grammes correspondans pour un kilogramme au titre de 850 millièmes, savoir - - - - - - - - - - - 37^{g} 374
Par le poids total - - - - - - - - - - - - 25

La quantité d'or ou d'argent à affiner sera donc de - - - - 9^{k} 259^{g} 350

Pour connaître les frais à percevoir,

Sur l'or -
- Il faut multiplier le montant des frais correspondans au titre de 850 mill. pour un kil. (colonne 3), savoir - - - - - 1^{f} 85^{c} 18
- Par le poids total des matières d'or, ci - - - - - 25
- Les frais à percevoir pour 25 kil. d'or à 850 mill. seraient de - - - - - - - - - - 46^{f} 29^{c}

Sur l'argent -
- Il faut multiplier le montant des frais correspondans au titre de 850 mil. pour 1 kil. (colonne 4), savoir - - - - - 0^{f} 92^{c} 59
- Par le poids total des matières d'argent, ci - - - - 25
- Les frais à percevoir pour 25 kil. d'argent à 850 mill. seraient de - - - - - - - - - - 23^{f} 14^{c}

Si le versement fait au change est composé de matières à différens titres, mais inférieurs au titre monétaire, il faut appliquer à chacune de ces espèces de matières un calcul semblable à celui ci-dessus, et additionner les frais à prélever pour en connaître le montant.

(B.)
FRENCH MINT.
Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

Compensation des Matières, à un Titre supérieur à 900 millièmes, avec celles à un titre inférieur.

Lorsqu'un versement fait par un particulier se compose de matières au-dessus et au-dessous de 900 millièmes, titre monétaire, il faut s'assurer si la totalité de fin qu'elles contiennent égale ou surpasse le fin que devrait contenir le poids total de ces matières, si elles étaient au titre de 900 millièmes; dans ce cas il n'y aura pas lieu à affinage, et par conséquent on n'a pas de frais d'affinage à prélever.

Dans le cas contraire, on opérerait comme il suit;

Exemple:

10 kil.	au titre de 950	contiennent de fin	9^k 500g
8	*idem* 875	*idem*	7. 000
7	*idem* 775	*idem*	5. 425
Poids total. 25 kil.		contenant de fin	21^k 925g
Si ces 25 kil. avaient été au titre de 900 mill. ils auraient contenu de fin			22. 500g
Différence en moins			0^k 575^k

Pour connaître la quantité du lingot à 775 sur laquelle il faut opérer après la compensation des titres, on établit la proportion suivante:

Si 125 grammes de fin en moins répondent à 1 kil. (à 775).
575 grammes de fin en moins, à combien de kil. (à 775) répondront-ils?
ou 125 : 1 : : 575 : X = Réponse 4 kil. 600 gr.

En multipliant ces 4 kil. 600 gr. par les prix portés à la Table, au titre de 775, on aura à percevoir;

Savoir:

Sur l'or	(à raison de 3^f 09^c pour 1 kil.), ci	14^f 21^c
Sur l'argent	(à raison de 1. 54. pour 1 kil.), ci	7. 08

Pour toutes les matières d'or et d'argent indiquées dans le tarif annexé à l'ordonnance du Roi du 15 Octobre 1828, excepté celles dont il a été question jusqu'ici, comme elles ne peuvent être reçues au change qu'après l'opération du départ, il sera donné des instructions spéciales.

—(K.)—

TARIFS des MATIÈRES et ESPÈCES d'OR et d'ARGENT, publiés en Exécution de l'Ordonnance Royale du 30 Juin 1835.

ORDONNANCE DU ROI.

LOUIS PHILIPPE, Roi des Français:

Vu l'ordonnance du 6 Juin 1830 relative au nouveau mode d'essai, par la voie humide, pour constater le titre des espèces fabriquées dans les hôtels des monnaies, et celui des diverses espèces et matières d'argent;

Vu notre ordonnance, en date du 25 Février dernier, portant fixation des frais de fabrication des monnaies d'or et d'argent qui seront payés, tous déchets compris, à compter du 1er Juillet prochain, aux directeurs des monnaies, et de la retenue à faire aux porteurs des matières d'or et d'argent, laquelle ne pourra excéder, conformément à la loi du 7 germinal an 11, les frais de fabrication accordés aux directeurs;

Vu

(B.)
French Mint.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

Vu les tarifs des espèces et matières d'or et d'argent rédigés d'après ces nouvelles bases par la commission des monnaies et médailles ;

Sur le rapport de notre ministre secrétaire d'état des finances,

Nous avons ordonné et ordonnons ce qui suit :

Art. 1er. A compter du 1er Juillet, les espèces et autres matières d'or et d'argent, de France et des pays étrangers, seront payées au change des monnaies, conformément aux tarifs annexés à la présente ordonnance, lesquels seront publiés et affichés dans les bureaux de change des hôtels des monnaies.

Art. 2. En cas de contestation sur les titre, la commission des monnaies et médailles sera consultée, et après avoir fait vérifier le titre par son laboratoire des essais, elle le constatera d'une manière authentique.

Art. 3. Notre ministre sécretaire d'état des finances est chargé de l'exécution de la présente ordonnance qui sera insérée au bulletin des lois.

Fait à Paris, le 30 Juin 1835.

(signé) Louis Philippe.

Par le Roi :
Le Ministre Secrétaire d'État des Finances,
(signé) *Humann.*

Pour ampliation :
Le Secrétaire Général des Finances,
(signé) *De Boubers.*

Tarif des Matières et Espèces d'Or.

Tarif du Prix auquel doivent être payées, au change des Hôtels des Monnaies, les Matières et Espèces d'Or, conformément à l'Ordonnance du 25 Février 1835, qui fixe la retenue pour les frais de fabrication, tous déchets compris, à six francs par kilogramme au titre monétaire de 900 millièmes.

Observation.—En cas de contestation entre le directeur et le porteur de matières, soit sur le titre des espèces désignées au présent tariff, soit sur celui des lingots, il sera adressé à la commission des monnaies et médailles, des échantillons ou prises d'essai, sous les cachets du commissaire du Roi, du contrôleur au change, du directeur et de la partie intéressée, afin que la commission des monnaies puisse faire procéder à la vérification du titre par son laboratoire et le constater ensuite d'une manière authentique.

Désignation des Espèces et Matières d'Or.	Titres.	Valeur par Kilogramme.
		f. *c.*
	1,000	3,437 77·7777
	999	3,434 34
Roupies aux signes du zodiaque, du Grand Mogol	998	3,430 90
	997	3,427 46
Sequins de Venise, écus, ducats et oselles de Venise; fondouklis anciens de Turquie	996	3,424 03
Sequins de Gènes, 1/2 et 1/4; ducats de Hanovre de Georges 1er	995	3,420 59
Sequins de Rome et de Bologne, anciens	994	3,417 15
Sequins de Florence, au lis	993	3,413 71
	992	3,410 28
Sequins de Florence, à l'effigie	991	3,406 84
	990	3,403 40
	989	3,399 96
	988	3,396 52
	987	3,393 09
Sequins de Piémont, à l'Annonciade	986	3,389 65
	985	3,386 21
Ducats d'Autriche; ducats de Hongrie; ducats de Bohème	984	3,382 77
	983	3,379 34
Agnelets; francs à pied et à cheval, de France	982	3,375 90
	981	3,372 46
Ducats de Saxe; ducats fins de Danemarck; 18 florins Zlotes de Pologne, depuis 1791; ducats de l'empereur; de Hambourg et de Francfort; ducats d'Augsbourg, Bade, Bavière, Brabant, (*Albert et Elisabeth*), Brandebourg, Anspach, Bareuth, Brunswick, Wolfenbutell, Lunébourg, Cologne, Hesse, Léipsick, Darmstadt, Liége, Lubeck, Nuremberg, Pays-Bas (*Guillaume*), Ratisbonne, Saltzbourg, Strasbourg, Wurtemberg, Wurtzbourg	980	3,369 02
Roupies du Grand Mogol, sans signe du zodiaque	979	3,365 58
Ducats de Hollande; ducats fins de Prusse; ducats nouveaux de la ville de Hambourg	978	3,362 15
	977	3,358 71
	976	3,355 27
Ducats de Pologne; *idem* de Suède; sequins de Malte	975	3,351 83
	974	3,348 40
Ducats de Russie, à l'aigle éployée	973	3,344 96
	972	3,341 52
	971	3,338 08
	970	3,334 64
Sequins fondouklis de Turquie, de 1730 à 1757	969	3,331 21
	968	3,327 77
	967	3,324 33
	966	3,320 89
Ducats de Russie à la croix de Saint André; pièces de 5 et 2 roubles, de Paul et d'Alexandre	965	3,317 46
	964	3,314 02
	963	3,310 58
	962	3,307 14
	961	3,303 70
	960	3,300 27
	959	3,296 83
	958	3,293 39
	957	3,289 95
	956	3,286 52
	955	3,283 08
	954	3,279 64
	953	3,276 20
	952	3,272 76
	951	3,269 33
	950	3,265 89
	949	3,262 45

Désignation des Espèces et Matières d'Or.	Titres.	Valeur par Kilogramme.
		f. *c.*
Écus d'or, de France, de Charles VI. à Louis XIV.	948	3,259 01
	947	3,255 58
	946	3,252 14
	945	3,248 70
	944	3,245 26
	943	3,241 82
	942	3,238 39
	941	3,234 95
	940	3,231 51
	939	3,228 07
	938	3,224 64
	937	3,221 20
	936	3,217 76
	935	3,214 32
	934	3,210 88
	933	3,207 45
	932	3,204 01
	931	3,200 57
	930	3,197 13
	929	3,193 70
	928	3,190 26
	927	3,186 82
	926	3,183 38
	925	3,179 94
	924	3,176 51
	923	3,173 07
	922	3,169 63
	921	3,166 19
	920	3,162 76
Vaisselle au coq, No. 1	919	3,159 32
	918	3,155 88
Ouvrages d'or de France, nouveaux, depuis la loi du 19 Brumaire, an 6	917	3,152 44
Médailles, jetons à pans et à viroles, pièces de marriage, de France; ryders et 1/2 ryders, 20 et 10 florins de Louis Napoléon, de Hollande	916	3,149 00
Souverains de Flandre et Pays-Bas Autrichiens; lions ou 14 florins de Belgique; guinées et nouveaux souverains d'Angleterre; vaisselle au 1er titre d'Angleterre; impériales de 10 roubles et divisions de Russie	915	3,145 57
Portugaises et millerets, testons et cruzades de Portugal	914	3,142 13
Pistoles de Genève; doubles et simples pistoles de Florence; aigles des Etats Unis d'Amérique, depuis 1800	913	3,138 69
	912	3,135 25
	911	3,131 82
	910	3,128 38
Génovines de 100l, de 50l, 25l et 12l 10s, de 96l, 48l, 24l et 12l; *idem* de la république Ligurienne; pistoles d'Espagne 4, 2, 1 et 1/2, au balancier, aux armes et à l'effigie, avant 1772; pistoles de Rome et de Bologne (Pie VI. et Pie VII.)	909	3,124 94
Pistoles du Mexique (Espagne); nouvelles roupies d'or du Mogol	908	3,121 50
	907	3,118 06
Vaisselle d'or, marquée de trois anciens poinçons, de Paris; pistoles de Venise et de Milan	906	3,114 63
Louis de France, de toute fabrication, avant 1726	905	3,111 19
	904	3,107 75
	903	3,104 31
Pistoles depuis 1755, carlins et divisions, de Piémont et de Savoie; petits écus, ou veinten, d'Espagne, avant 1772	902	3,100 88
Florins, 10 et 5 thalers de Brunswick-Wolfenbutell, jusques et y compris 1813	901	3,097 44

Désignation des Espèces et Matières d'Or.	Titres	Valeur par Kilogramme.
		f. *c.*
10 florins des Pays-Bas (*Guillaume*), de 1818; 10 et 5 florins de Bade, 1819, 1820; Louis de France, depuis 1726, ou pièces de 48^{l}, 24^{l} et 12^{l}; 40^{f} et 20^{f} de Westphalie (*Jerôme*); du royaume d'Italie (*Napoléon*); de Parme, (*Marie Louise*); de Piémont, et 80 fr., depuis 1816; 32^{f} et 16^{f} de la République Helvétique - -	900	3,094 00
	899	3,090 56
Pistoles du Palatinat - - - -	898	3,087 12
Pistoles du Pérou (Espagne); Frédérics de Prusse - - - - - -	897	3,083 69
	896	3,080 25
	895	3,076 81
	894	3,073 37
Nouvelles pistoles d'Espagne, quadruples, 1/2, 1/4 et 1/8, de 1772 à 1786	893	3,069 94
Pièces à la rose, ou rosines de Florence; pistoles de Piémont, avant 1755; pistoles à l'étoile de Hesse Cassel -	892	3,066 50
	891	3,063 06
	890	3,059 62
Pistoles de Bâle - - - - -	889	3,056 18
	888	3,052 75
Albertus et écus d'or de Flandre et des Pays Bas (Belgique); aux armes et à la croix de Saint André, depuis 1611	887	3,049 31
	886	3,045 87
	885	3,042 43
	884	3,039 00
	883	3,035 56
	882	3,032 12
	881	3,028 68
	880	3,025 24
	879	3,021 81
Quadruples de Modène - - -	878	3,018 37
	877	3,014 93
	876	3,011 49
	875	3,008 06
	874	3,004 62
	873	3,001 18
	872	2,997 74
Onces de Naples, ducats de Don Carlos; ducats courants de Danemarck; sequins anciens de Tunis - - -	871	2,994 30
	870	2,990 87
	869	2,987 43
	868	2,983 99
	867	2,980 55
	866	2,977 12
	865	2,973 68
	864	2,970 24
	863	2,966 80
	862	2,963 36
	861	2,959 93
	860	2,956 49
	859	2,953 05
	858	2,949 61
	857	2,946 18
	856	2,942 74
	855	2,939 30
Onces de Sicile, à l'aigle couronné (legende), *Hispaniæ infans* - - -	854	2,935 86
	853	2,932 42
	852	2,928 99
	851	2,925 55
	850	2,922 11
	849	2,918 67
	848	2,915 24
	847	2,911 80
	846	2,908 36
	845	2,904 92
	844	2,901 48
	843	2,898 05
	842	2,894 61
	841	2,891 17
Louis d'Emmanuel de Rohan, de Malte; onces de Sicile - - - - -	840	2,887 73
	839	2,884 30
	838	2,880 86
Ouvrages d'or, au 2^{e} titre, marqués depuis la loi du 19 Brumaire, an 6 - -	837	2,877 42
	836	2,873 98
	835	2,870 54
	834	2,867 11
	833	2,863 67
	832	2,860 23
	831	2,856 79
	830	2,853 36
	829	2,849 92
	828	2,846 48
	827	2,843 04
	826	2,839 60
	825	2,836 17
	824	2,832 73
	823	2,829 29
	822	2,825 85
	821	2,822 42
	820	2,818 98
Sequins zermahboub de Turquie - -	819	2,815 54
	818	2,812 10
	817	2,808 66
	816	2,805 23
	815	2,801 79
	814	2,798 35
	813	2,794 91
	812	2,791 48
	811	2,788 04
	810	2,784 60
Pagodes des Indes, au croissant - -	809	2,781 16
	808	2,777 72
	807	2,774 29
	806	2,770 85
	805	2,767 41
	804	2,763 97
	803	2,760 54
	802	2,757 10
	801	2,753 66
	800	2,750 22
	799	2,746 78
Pagodes d'or des Indes, à l'étoile; à une et à trois figures - - - - -	798	2,743 35
	797	2,739 91
	796	2,736 47
	795	2,733 03
	794	2,729 60
	793	2,726 16
	792	2,722 72
	791	2,719 28
	790	2,715 84
	789	2,712 41
	788	2,708 97
	787	2,705 53
	786	2,702 09
	785	2,698 66
	784	2,695 22
	783	2,691 78
	782	2,688 34
	781	2,684 90
	780	2,681 47
	779	2,678 03
	778	2,674 59
4, 2, 1 et 1/2 florins de Brunswick-Hanovre - - - - - -	777	2,671 15
	776	2,667 72
	775	2,664 28
	774	2,660 84
	773	2,657 40
Florins du Rhin. Carolins, 1/2 et 1/4, de Hesse-Darmstadt - - - -	772	2,653 96
	771	2,650 53

(*continued*)

Désignation des Espèces et Matières d'Or.	Titres	Valeur par Kilogramme.	Désignation des Espèces et Matières d'Or.	Titres	Valeur par Kilogramme.
		f. *c.*			*f.* *c.*
	770	2,647 09		704	2,420 20
	769	2,643 65		703	2,416 76
	768	2,640 21		702	2,413 32
Florins ou Carolins du Palatinat, de Cologne, de Wurtemberg; 2 et 1 florins de Bavière; Carolins de Brandebourg, Anspach, Bareuth - - - -	767	2,636 78		701	2,409 88
	766	2,633 34		700	2,406 44
	765	2,629 90		699	2,403 01
	764	2,626 46		698	2,399 57
	763	2,623 02		697	2,396 13
	762	2,619 59		696	2,392 69
	761	2,616 15		695	2,389 26
	760	2,612 71		694	2,385 82
	759	2,609 27		693	2,382 38
3, 2 et 1 florins ou Carolins, de convention, de Bade. *Idem* de Montfort. *Idem* de Wurtzbourg, 2/3 et 1/3 -	758	2,605 84		692	2,378 94
				691	2,375 50
				690	2,372 07
				689	2,368 63
				688	2,365 19
				687	2,361 75
Florins de Bade, Dourlach - - -	757	2,602 40		686	2,358 32
	756	2,598 96		685	2,354 88
	755	2,595 52		684	2,351 44
	754	2,592 08		683	2,348 00
	753	2,588 65		682	2,344 56
	752	2,585 21		681	2,341 13
	751	2,581 77		680	2,337 69
Bijoux, marquées de 3 poinçons anciens, de Paris, avant la loi du 19 Brumaire, an 6 - - - - - - - -	750	2,578 33		679	2,334 25
				678	2,330 81
	749	2,574 90		677	2,327 38
				676	2,323 94
Ouvrages d'or d'Angleterre, marqués d'une couronne et du No. 18 (18 karats) - - - - - - - -	748	2,571 46		675	2,320 50
				674	2,317 06
				673	2,313 62
Ouvrages d'or au 3e titre, marqués depuis la loi du 19 Brumaire, an 6 -	747	2,568 02		672	2,310 19
	746	2,564 58		671	2,306 75
	745	2,561 14		670	2,303 31
	744	2,557 71		669	2,299 87
	743	2,554 27		668	2,296 44
	742	2,550 83		667	2,293 00
	741	2,547 39		666	2,289 56
	740	2,543 96		665	2,286 12
	739	2,540 52		664	2,282 68
	738	2,537 08		663	2,279 27
	737	2,533 64		662	2,275 81
	736	2,530 20		661	2,272 37
	735	2,526 77		660	2,268 93
	734	2,523 33		659	2,265 50
	733	2,519 89		658	2,262 06
	732	2,516 45		657	2,258 62
	731	2,513 02		656	2,255 18
	730	2,509 58		655	2,251 74
	729	2,506 14		654	2,248 31
	728	2,502 70		653	2,244 87
	727	2,499 26		652	2,241 43
	726	2,495 83		651	2,237 99
	725	2,492 39		650	2,234 56
	724	2,488 95		649	2,231 12
	723	2,485 51		648	2,227 68
	722	2,482 08		647	2,224 24
	721	2,478 64		646	2,220 80
	720	2,475 20		645	2,217 37
	719	2,471 76		644	2,213 93
	718	2,468 32		643	2,210 49
	717	2,464 89		642	2,207 05
	716	2,461 45		641	2,203 62
	715	2,458 01		640	2,200 18
	714	2,454 57		639	2,196 74
	713	2,451 14		638	2,193 30
	712	2,447 70		637	2,189 86
	711	2,444 26		636	2,186 43
	710	2,440 82		635	2,182 99
	709	2,437 38		634	2,179 55
	708	2,433 95		633	2,176 11
	707	2,430 51		632	2,172 68
	706	2,427 07		631	2,169 24
	705	2,423 63		630	2,165 80
				629	2,162 36

Désignation des Espèces et Matières d'Or.	Titres	Valeur par Kilogramme.	Désignation des Espèces et Matières d'Or.	Titres	Valeur par Kilogramme.
		f. *c.*			*f.* *c.*
	628	2,158 92		563	1,935 47
	627	2,155 49		562	1,932 03
	626	2,152 05		561	1,928 59
	625	2,148 61		560	1,925 16
	624	2,145 17		559	1,921 72
	623	2,141 74		558	1,918 28
	622	2,138 30		557	1,914 84
	621	2,134 86		556	1,911 40
	620	2,131 42		555	1,907 97
	619	2,127 98		554	1,904 53
	618	2,124 55		553	1,901 09
	617	2,121 11		552	1,897 65
	616	2,117 67		551	1,894 22
	615	2,114 23		550	1,890 78
	614	2,110 80		549	1,887 34
	613	2,107 36		548	1,883 90
	612	2,103 92		547	1,880 46
	611	2,100 48		546	1,877 03
	610	2,097 04		545	1,873 59
	609	2,093 61		544	1,870 15
	608	2,090 17		543	1,866 71
	607	2,086 73		542	1,863 28
	606	2,083 29		541	1,859 84
	605	2,079 86		540	1,856 40
	604	2,076 42		539	1,852 96
	603	2,072 98		538	1,849 52
	602	2,069 54		537	1,846 09
	601	2,066 10		536	1,842 65
	600	2,062 67		535	1,839 21
	599	2,059 23		534	1,835 77
	598	2,055 79		533	1,832 34
	597	2,052 35		532	1,828 90
	596	2,048 92		531	1,825 46
	595	2,045 48		530	1,822 02
	594	2,042 04		529	1,818 58
	593	2,038 60		528	1,815 15
	592	2,035 16		527	1,811 71
	591	2,031 73		526	1,808 27
	590	2,028 29		525	1,804 83
	589	2,024 85		524	1,801 40
	588	2,021 41		523	1,797 96
	587	2,017 98		522	1,794 52
	586	2,014 54		521	1,791 08
	585	2,011 10		520	1,787 64
	584	2,007 66		519	1,784 21
	583	2,004 22		518	1,780 77
	582	2,000 79		517	1,777 33
	581	1,997 35		516	1,773 89
	580	1,993 91		515	1,770 46
	579	1,990 47		514	1,767 02
	578	1,987 04		513	1,763 58
	577	1,983 60		512	1,760 14
	576	1,980 16		511	1,756 70
	575	1,976 72		510	1,753 27
	574	1,973 28		509	1,749 83
	573	1,969 85		508	1,746 39
	572	1,966 41		507	1,742 95
	571	1,962 97		506	1,739 52
	570	1,959 53		505	1,736 08
	569	1,956 10		504	1,732 64
	568	1,952 66		503	1,729 20
	567	1,949 22		502	1,725 76
	566	1,945 78		501	1,722 33
	565	1,942 34		500	1,718 89
	564	1,938 91			

Dans les pesées d'or inférieures à 300 grammes, les directeurs de monnaie et contrôleurs au change seront tenus d'employer un poids de 25 milligrammes ou un quart de décigramme.

Les espèces et matières d'or au-dessous du titre monétaire (900 millièmes) sont passibles du droit d'affinage fixé par l' ordonnance du 15 Octobre 1828, 1° lorsqu'elles sont versées isolément au change des monnaies; 2° lorsqu'elles contiennent des métaux autres que le cuivre, qui doivent être séparés de l'or.

(B.)
FRENCH MINT.
Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

Lorsqu'elles ne contiennent que du cuivre, et que les titres de celles qui seraient au-dessus de 900 millièmes peuvent se compenser, en tout ou en partie, avec les titres qui seraient au-dessous de 900 millièmes, le droit affinage n'est pas dû, ou n'est dû que sur la portion qu'il est nécessaire d'affiner pour en ramener la totalité au titre monétaire. Une table imprimée indiquant, pour toute espèce de titres, la portion de matière à affiner par kilogramme et les frais à payer pour l'affinage de cette portion de matière, a été jointe à l'ordonnance du 15 Octobre 1828 et envoyée dans chaque monnaie.

Le présent tarif vérifié et certifié exact.

Le Vérificateur des Essais,
(signé) *Breant.*

Les Essayeurs des Monnaies,
(signé) *Chevillot* et *Pelouze.*

Arrêté par la Commission des Monnaies et Médailles :

Le Pair de France, President de la Commission,
(signé) *Cte de Sussy.*

Le Commissaire Général,
(signé) *Moulard.*

Le Commissaire Général, Directeur des Essais,
(signé) *D'Arcet.*

Vu pour être annexé à l'Ordonnance du 30 Juin 1835 :

Le Ministre Secrétaire d'État des Finances,
(signé) *Humann.*

Pour ampliation :
Le Secrétaire Général des Finances,
(signé) *De Boubers.*

TARIF DES MATIÈRES ET ESPÈCES D'ARGENT.

TARIF du Prix auquel doivent être payées, au change des Hôtels des Monnaies, les Matières et Espèces d'Argent, conformément à l'Ordonnance du 25 Février 1835, qui fixe la retenue pour les frais de fabrication, tous déchets compris, à deux francs par kilogramme au titre monétaire de 900 millièmes.

Observation.—En cas de contestation entre le directeur et le porteur de matières, soit sur le titre des espèces désignées au présent tarif, soit sur celui des lingots, il sera adressé à la commission des monnaies et médailles, des échantillons ou prises d'essai, sous les cachets du commissaire du Roi, du contrôleur au change, du directeur et de la partie intéressée, afin que la commission des monnaies puisse faire procéder à la vérification du titre par son laboratoire et le constater ensuite d'une manière authentique.

Dénomination des Espèces et Matières d'Argent.	Titres	Valeur par Kilogramme.	Dénomination des Espèces et Matières d'Argent.	Titres	Valeur par Kilogramme.
		f. *c.*			*f.* *c.*
	1,000	220 00		983	216 26
Roupies aux signes du zodiaque, du Grand-Mogol - - - - -	999	219 78		982	216 04
	998	219 56	Francs ou livres de Louis XV. (au revers J L) - - - - - -	981	215 82
	997	219 34		980	215 60
Écus de Hanovre, florins de 24 marien-grochen, 1/2 et 1/4 Fein-Silber de Westphalie (*Jérôme Napoléon*) -	996	219 12		979	215 38
	995	218 90	Gros écus de Nassau-Weilbourg (au revers, Fein-Silber) - - - - -	978	215 16
	994	218 68		977	214 94
	993	218 46		976	214 72
	992	218 24		975	214 50
	991	218 02		974	214 28
	990	217 80		973	214 06
	989	217 58		972	213 84
	988	217 36		971	213 62
	987	217 14		970	213 40
	986	216 92		969	213 18
	985	216 70		968	212 96
Gros écus du Palatinat - - -	984	216 48		967	212 74
				966	212 52

Dénomination des Espèces et Matières d'Argent.	Titres	Valeur par Kilogramme.
		f. *c.*
	965	212 30
	964	212 08
	963	211 86
	962	211 64
	961	211 42
	960	211 20
	959	210 98
	958	210 76
Pièces de 10 livres, 5 livres et 1 livre, du royaume d'Etrurie (effigie de la reine et de son fils); vieux ducatons de Florence; de Toscane; crozats ou vieux écus de Gênes - - - -	957	210 54
	956	210 32
	955	210 10
	954	209 88
Jetons de France anciens; roupies de Pondichéry - - - - - -	953	209 66
	952	209 44
	951	209 22
Argenterie, poinçons de Paris, plate, non soudée, et soudée, marquée avant la loi du 19 Brumaire, an 6; roupies du Grand Mogol - - - - - -	950	209 00
	949	208 78
	948	208 56
Roupies de Madras; argenterie de France, vaisselle plate non soudée, marquée depuis la loi du 19 Brumaire, an 6; médailles et jetons à pans et à viroles, marqués sur tranche d'une lampe antique, pièces de mariage -	947	208 34
	946	208 12
	945	207 90
Roupies d'Arcate, des Indes - -	944	207 68
	943	207 46
	942	207 24
Vaisselle montée de Paris, marquée avant la loi du 19 Brumaire, an 6, Phillippes de Milan - - - -	941	207 02
	940	206 80
	939	206 58
	938	206 36
Vaisselle plate des départements, non soudée, marquée avant la loi du 19 Brumaire, an 6, et vaisselle montée de Paris, marquée depuis la dite loi -	937	206 14
	936	205 92
	935	205 70
Roupies de Perse - - - - -	934	205 48
	933	205 26
	932	205 04
	931	204 82
Vaisselle plate soudée, et vaisselle montée des départements, marquées avant la loi du 19 Brumaire, an 6 - -	930	204 60
	929	204 38
	928	204 16
	927	203 94
	926	203 72
	925	203 50
	924	203 28
Couronnes et schellings d'Angleterre. Vaisselle Anglaise - - - - -	923	203 06
	922	202 84
Ducatons de Liège et de Parme - - -	921	202 62
	920	202 40
	919	202 18
	918	201 96
Écus de France avant 1726, de 8, 9, 10, et 10 3/8 au marc - - - - -	917	201 74
	916	201 52
	915	201 30
Écus de banque de Gènes - - - -	914	201 08
	913	200 86
	912	200 64

Dénomination des Espèces et Matières d'Argent.	Titres	Valeur par Kilogramme.
		f. *c.*
Écus de 6 livres et de 3 livres, pièces de 24, 12 et 6 sols depuis 1726*; florins de Hollande des diverses provinces, et du royaume de Hollande (*Louis-Napoléon*) - - - - - -	911	200 42
Piastres aux deux globes, mexicos et sévillanes, avant 1772, et 1/2, 1/4, 1/8 et 1/16. Écus de Rome et de Bologne de 10 pauls, et divisions de Pie 6, et de Pie 7; pièces de 8 de Florence - - - - - - - -	910	200 20
	909	199 98
	908	199 76
Écus de Piémont avant 1816, 1/2, 1/4 et 1/8; de Schaffouse; testons de Rome	907	199 54
	906	199 32
	905	199 10
Écus de 5 livres de Piémont depuis 1816, et pièces de 2 livres et 1 livre; écus de 5 liv. de Naples, de Joachim-Napoléon (*Murat*) ou 5 lire; écus de 5 livres de Parme, de Marie-Louise - -	904	198 88
Ducats de Naples de Charles VI.; monnaie blanche de Naples - - -	903	198 66
	902	198 44
Piastres du Pérou; du Chili; de la Colombie - - - - - - -	901	198 22
Piastres d'Espagne à l'effigie, depuis 1772, 1/4, 1/8 et 1/16. Cruzades de Portugal - - - - - -	900	198 00
	899	197 78
	898	197 56
Florins des Pays-Bas de Guillaume Utrecht et Bruxelles), 3 florins, 1 florin, 1/2 florin - - - - - -	897	197 34
Écus de banque, dits dollars d'Angleterre, 3, 1 et 1/2 schelling de Banque, *idem* - - - - - - - -	896	197 12
	895	196 90
Dollars d'Amérique - - - - -	894	196 68
	893	196 46
	892	196 24
	891	196 02
	890	195 80
	889	195 58
Pièces de 12 et de 6 carlins de Naples, de Charles VI., Don Carlos, et Ferdinand IV. - - - - - - -	888	195 36
	887	195 14
	886	194 92
	885	194 70
	884	194 48
	883	194 26
Écus ou risdales de Suède - - -	882	194 04
	881	193 82
	880	193 60
Risdales de constitution d'Autriche et d'Allemagne; écus de Hanovre, d'Hambourg; doubles écus, 2/3, 1/2 et 1/3 de Danemarck, depuis 1776 -	879	193 38
	878	193 16
	877	192 94
Florins d'Autriche; couronnes de Brabant, dites croisons - - - -	876	192 72

(*continued*)

* Il est dû en outre, aux porteurs de ces espèces, une bonification par kilogramme pour la portion d'or qu'elles contiennent. (Loi du 30 Mars 1834) - - 1*f.* 19*c.*
Argent par kilogramme - - - - 200 42

TOTAL de la valeur du kilogramme des espèces duodécimales - - - - - 201*f.* 19*c.*

Dénomination des Espèces et Matières d'Argent.	Titres	Valeur par Kilogramme. f. c.
Écus de Brabant; roubles de Russie, depuis 1798	875	192 50
	874	192 28
	873	192 06
	872	191 84
	871	191 62
	870	191 40
Risdales de Hollande ou ducats et 1/2; écus ou 2 florins; 1 florin et 1/2 florin de Bâle	869	191 18
	868	190 96
	867	190 74
	866	190 52
	865	190 30
	864	190 08
	863	189 86
Écus de Flandre dits caramboles de Louis XIV.; ducatons et écus de Flandres et des Pays-Bas Autrichiens; écus anciens de Lucerne; de Saint Gall; Géorgines (vieilles), de Gênes	862	189 64
	861	189 42
	860	189 20
	859	188 98
	858	188 76
	857	188 54
	856	188 32
	855	188 10
	854	187 88
	853	187 66
	852	187 44
	851	187 22
	850	187 00
	849	186 78
	848	186 56
	847	186 34
	846	186 12
	845	185 90
Patagons de Genève de 3 livres courantes	844	185 68
	843	185 46
	842	185 24
	841	185 02
	840	184 80
	839	184 58
	838	184 36
Écus ou risdales de convention d'Allemagne; pièces de 12 sols de Luxembourg	837	184 14
Florins d'Underwald	836	183 92
	835	183 70
Écus ou onces de Malte de 33 tarins d'Emmanuel de Rohan: 5e, 10e et 20e de la piastre d'Espagne avant 1772	834	183 48
	833	183 26
	832	183 04
	831	182 82
Écus de Brunswick; de Ratisbonne; madonines de Gênes	830	182 60
	829	182 38
	828	182 16
Anciennes pièces de France de 20, 10 et 4 sols; risdales et couronnes de 1704 à 1765 de Frederic IV. et de Frederic V. de Danemarck; pièces de 12 tárins et divisions de Sicile	827	181 94
Couverts de Rome, poinçon: clefs en sautoir	826	181 72
	825	181 50
	824	181 28
Écus ou risdales de Bavière et d'Anspach	823	181 06
	822	180 84
	821	180 62
Dollars, 1/2 et 1/5, de la Compagnie de Sierra-Leone (Afrique)	820	180 40
	819	180 18
	818	179 96
Ducats effectifs de 8 livres piccolis, 1/2 et 1/4; pièces de 10 livres. Talaros, 1/2, 1/4 et 1/8 de Venise	817	179 74
	816	179 52
	815	179 30
	814	179 08
Écus de Zurich	813	178 86
5e, 10e et 20e de la piastre d'Espagne, depuis 1772	812	178 64
Thalaris	811	178 42
13 loths d'Allemagne	810	178 20
	809	177 98
	808	177 76
	807	177 54
	806	177 32
	805	177 10
	804	176 88
	803	176 66
	802	176 44
	801	176 22
	800	176 00
	799	175 78
	798	175 56
Argenterie de France, au 2e titre, marquée depuis la loi du 19 Brumaire, an 6	797	175 34
	796	175 12
	795	174 90
	794	174 68
	793	174 46
Roubles de Russie, avant 1763	792	174 24
	791	174 02
	790	173 80
Argenterie marquée d'un aigle; d'un A, surmonté d'une croix	789	173 58
	788	173 36
	787	173 14
	786	172 92
	785	172 70
	784	172 48
	783	172 26
	782	172 04
	781	171 82
	780	171 60
	779	171 38
	778	171 16
	777	170 94
	776	170 72
	775	170 50
	774	170 28
	773	170 06
	772	169 84
	771	169 62
	770	169 40
	769	169 18
	768	168 96
	767	168 74
	766	168 52
	765	168 30
	764	168 08
	763	167 86
Argenterie d'Allemagne, marquée d'une scie	762	167 64
	761	167 42
	760	167 20
	759	166 98
	758	166 76
	757	166 54
	756	166 32
	755	166 10
	754	165 88
	753	165 66

Dénomination des Espèces et Matières d'Argent.	Titres	Valeur par Kilogramme.
		f. *c.*
Florins de Mayence - - - - -	752	165 44
	751	165 22
	750	165 00
	749	164 78
Roubles de Russie, de 1763 à 1802, et 1/2	748	164 56
	747	164 34
Risdales ou écus de Prusse de 24 bons gros ; 1/2 écu, ou 12 gros, depuis 1775	746	164 12
Florins anciens de Bade-Dourlach -	745	163 90
	744	163 68
	743	163 46
	742	163 24
	741	163 02
	740	162 80
	739	162 58
	738	162 36
Kopfstucks ou 20 et 10 kreutzers de Hesse-Darmstadt ; de Cologne ; écus de Lubeck ; petermen de Trèves -	737	162 14
	736	161 92
	735	161 70
Écus vieux de Bareuth - - -	734	161 48
	733	161 26
	732	161 04
	731	160 82
	730	160 60
	729	160 38
	728	160 16
	727	159 94
	726	159 72
	725	159 50
	724	159 28
	723	159 06
	722	158 84
	721	158 62
	720	158 40
	719	158 18
	718	157 96
	717	157 74
	716	157 52
	715	157 30
	714	157 08
	713	156 86
	712	156 64
	711	156 42
	710	156 20
	709	155 98
	708	155 76
	707	155 54
	706	155 32
	705	155 10
	704	154 88
	703	154 66
	702	154 44
	701	154 22
	700	154 00
	699	153 78
	698	153 56
	697	153 34
	696	153 12
	695	152 90
	694	152 68
	693	152 46
	692	152 24
	691	152 02
	690	151 80
	689	151 58
	688	151 36
	687	151 14
	686	150 92
	685	150 70
	684	150 48
	683	150 26
	682	150 04
	681	149 82
	680	149 60

Dénomination des Espèces et Matières d'Argent.	Titres	Valeur par Kilogramme.
		f. *c.*
	679	149 38
	678	149 16
	677	148 94
	676	148 72
	675	148 50
	674	148 28
	673	148 06
	672	147 84
	671	147 62
	670	147 40
	669	147 18
	668	146 96
Pièces de 30 sols et 15 sols de France (Louis XVI.) altérées - - -	667	146 74
	666	146 52
	665	146 30
	664	146 08
	663	145 86
	662	145 64
	661	145 42
	660	145 20
	659	144 98
	658	144 76
	657	144 54
	656	144 32
	655	144 10
	654	143 88
	653	143 66
	652	143 44
	651	143 22
Pièces de 6 sols de Luxembourg - -	650	143 00
	649	142 78
	648	142 56
	647	142 34
	646	142 12
	645	141 90
	644	141 68
	643	141 46
	642	141 24
	641	141 02
	640	140 80
	639	140 58
	638	140 36
	637	140 14
	636	139 92
	635	139 70
	634	139 48
	633	139 26
	632	139 04
	631	138 82
	630	138 60
	629	138 38
	628	138 16
	627	137 94
	626	137 72
	625	137 50
	624	137 28
	623	137 06
	622	136 84
	621	136 62
	620	136 40
	619	136 18
	618	135 96
	617	135 74
	616	135 52
	615	135 30
	614	135 08
Florins de Mecklembourg - - -	613	134 86
	612	134 64
	611	134 42
	610	134 20
	609	133 98
	608	133 76
	607	133 54
	606	133 32
	605	133 10

(*continued*)

Dénomination des Espèces et Matières d'Argent.	Titres	Valeur par Kilogramme.
		f. c.
	604	132 88
	603	132 66
	602	132 44
	601	132 22
	600	132 00
	599	131 78
	598	131 56
	597	131 34
	596	131 12
	595	130 90
	594	130 68
	593	130 46
	592	130 24
	591	130 02
	590	129 80
	589	129 58
	588	129 36
	587	129 14
24 et 20 kreutzers d'Allemagne, depuis 1753; 1/6e de risdale de convention -	586	128 92
	585	128 70
	584	128 48
	583	128 26
	582	128 04
	581	127 82
	580	127 60
	579	127 38
Doubles et simples escalins de Brabant	578	127 16
	577	126 94
	576	126 72
	575	126 50
1/4 de florin ou 25 cents, 1/10 ou 10 cents et 1/20, ou 5 cents de Guillaume, roi des Pays-Bas - - - - -	574	126 28
Doubles escalins, escalins et plaquettes de Liège - - - - - -	573	126 06
	572	125 84
	571	125 62
	570	125 40
	569	125 18
	568	124 96
	567	124 74
	566	124 52
	565	124 30
	564	124 08
	563	123 86
	562	123 64
4 gros ou 1/6e d'écu (au petit cheval) de Brunswich-Wolfenbutel, de 1764 à 1802; et de Lunébourg - - -	561	123 42
	560	123 20
	559	122 98
	558	122 76
	557	122 54
	556	122 32
	555	122 10
	554	121 88
	553	121 66
	552	121 44
	551	121 22
	550	121 00
	549	120 78
	548	120 56
	547	120 34
	546	120 12
	545	119 90
4 gros ou 1/6 d'écu de Saxe depuis 1763, 1/8 de risdale de Saxe - - -	544	119 68
	543	119 46
	542	119 24
	541	119 02
	540	118 80
	539	118 58
	538	118 36
	537	118 14
	536	117 92

Dénomination des Espèces et Matières d'Argent.	Titres	Valeur par Kilogramme.
		f. c.
	535	117 70
	534	117 48
Piastres de Tunis; de Constantinople; doubles tyes de Hollande - -	533	117 26
	532	117 04
	531	116 82
	530	116 60
	529	116 38
	528	116 16
	527	115 94
	526	115 72
	525	115 50
	524	115 28
	523	115 06
	522	114 84
	521	114 62
	520	114 40
	519	114 18
	518	113 96
	517	113 74
	516	113 52
	515	113 30
6 thalers de Prusse - - - - -	514	113 08
	513	112 86
	512	112 64
	511	112 42
	510	112 20
	509	111 98
	508	111 76
	507	111 54
	506	111 32
Plaquettes, ou 1/2 escalins, de Brabant	505	111 10
	504	110 88
	503	110 66
	502	110 44
	501	110 22
	500	110 00
	499	109 78
12 et 10 kreutzers d'Allemagne depuis 1753, 1/12 de risdale de convention -	498	109 56
	497	109 34
	496	109 12
	495	108 90
	494	108 68
	493	108 46
	492	108 24
	491	108 02
	490	107 80
	489	107 58
	488	107 36
	487	107 14
	486	106 92
	485	106 70
	484	106 48
	483	106 26
	482	106 04
	481	105 82
	480	105 60
	479	105 38
	478	105 16
	477	104 94
	476	104 72
	475	104 50
	474	104 28
	473	104 06
	472	103 84
	471	103 62
	470	103 40
	469	103 18
	468	102 96
	467	102 74
	466	102 52
	465	102 30
	464	102 08
	463	101 86
	462	101 64

Dénomination des Espèces et Matières d'Argent.	Titres	Valeur par Kilogramme.	Dénomination des Espèces et Matières d'Argent.	Titres	Valeur par Kilogramme.
		f. *c.*			*f.* *c.*
	461	101 42		387	85 14
	460	101 20		386	84 92
	459	100 98		385	84 70
	458	100 76		384	84 48
	457	100 54		383	84 26
	456	100 32		382	84 04
	455	100 10		381	83 82
	454	99 88		380	83 60
	453	99 66		379	83 38
	452	99 44		378	83 16
	451	99 22		377	82 94
	450	99 00		376	82 72
	449	98 78		375	82 50
	448	98 56		374	82 28
	447	98 34		373	82 06
	446	98 12		372	81 84
	445	97 90		371	81 62
	444	97 68		370	81 40
	443	97 46		369	81 18
	442	97 24		368	80 96
	441	97 02		367	80 74
	440	96 80		366	80 52
2 gros, ou 1/12 d'écu, et 1/16 de risdale de Saxe, depuis 1763 - - -				365	80 30
	439	96 58		364	80 08
	438	96 36		363	79 86
	437	96 14		362	79 64
	436	95 92		361	79 42
	435	95 70		360	79 20
	434	95 48		359	78 98
	433	95 26		358	78 76
	432	95 04		357	78 54
	431	94 82		356	78 32
	430	94 60		355	78 10
	429	94 38	1/12 de reichtaler, ou 2 gros de Prusse -	354	77 88
	428	94 16		353	77 66
	427	93 94		352	77 44
	426	93 72		351	77 22
	425	93 50		350	77 00
	424	93 28		349	76 78
	423	93 06		348	76 56
	422	92 84		347	76 34
	421	92 62		346	76 12
	420	92 40		345	75 90
	419	92 18		344	75 68
	418	91 96		343	75 46
	417	91 74		342	75 24
	416	91 52		341	75 02
	415	91 30		340	74 80
5 sols, et 2 sols 6 deniers, de Brabant ou de Belgique - - - -				339	74 58
	414	91 08		338	74 36
	413	90 86		337	74 14
	412	90 64		336	73 92
	411	90 42		335	73 70
	410	90 20		334	73 48
	409	89 98		333	73 26
	408	89 76		332	73 04
	407	89 54		331	72 82
	406	89 32		330	72 60
	405	89 10		329	72 38
	404	88 88		328	72 16
	403	88 66		327	71 94
	402	88 44		326	71 72
	401	88 22		325	71 50
	400	88 00		324	71 28
	399	87 78		323	71 06
	398	87 56		322	70 84
	397	87 34		321	70 62
	396	87 12		320	70 40
	395	86 90		319	70 18
	394	86 68		318	69 96
	393	86 46		317	69 74
	392	86 24		316	69 52
	391	86 02		315	69 30
	390	85 80		314	69 08
	389	85 58		313	68 86
	388	85 36		312	68 64

Dénomination des Espèces et Matières d'Argent.	Titres	Valeur par Kilogramme.	Dénomination des Espèces et Matières d'Argent.	Titres	Valeur par Kilogramme.
		f. *c.*			*f.* *c.*
	311	68 42		305	67 10
	310	68 20		304	66 88
	309	67 98		303	66 66
	308	67 76		302	66 44
	307	67 54		301	66 22
	306	67 32		300	66 00

Les espèces et matières d'argent au-dessous du titre monétaire (900 millièmes) sont passives du droit d'affinage fixé par l'ordonnance du 15 Octobre 1828.

Lorsqu'elles ne contiennent que du cuivre, et que les titres de celles qui seraient au-dessus de 900 millièmes peuvent se compenser, en tout ou en partie, avec les titres qui seraient au-dessous de 900 millièmes, le droit d'affinage ne doit être perçu que sur la portion nécessaire à affiner pour en ramener le titre à celui des monnaies. Une table imprimée a été jointe à l'ordonnance du 15 Octobre 1828.

Le présent tarif vérifié et certifié exact.

Le Vérificateur des Essais,
(signé) *Bréant.*

Les Essayeurs des Monnaies,
(signé) *Chevillot* et *Pelouze.*

Arrêté par la Commission des Monnaies et Médailles :
Le Pair de France,
(signé) *C^te De Sussy,* Président.

Le Commissaire Général,
(signé) *Moulard.*

Le Commissaire Général, Directeur des Essais,
(signé) *D'Arcet.*

Vu pour être annexé à l'Ordonnance du 30 Juin 1835 :
Le Ministre Secrétaire d'État des Finances,
(signé) *Humann.*

Pour ampliation :
Le Secrétaire Général des Finances,
(signé) *De Boubers.*

(L.)

COMMISSION des Monnaies et Médailles.

Frais de Fabrication des Monnaies d'Or et d'Argent.

Rapport au Roi.

Sire,

Les frais de fabrication des monnaies d'or et d'argent ont été fixés par l'article 11 de la loi du 7 Germinal, an 11. Cet article est ainsi conçu :

" Il ne pourra être exigé de ceux qui porteront les matières d'or et d'argent à la monnaie que les frais de fabrication.

" Ces frais sont fixés à 9 francs par kilogramme d'or, et à 3 francs par kilogramme d'argent."

Un décret du 16 Messidor de la même année règle, de la manière suivante, la somme qui doit être payée aux directeurs des monnaies, pour frais de fabrication, et celle qui leur sera passée en compte pour déchet, savoir :

Pour l'Or.

	f.	*c.*
Frais de fabrication par kilogramme - - - - - - - - -	3	24
Pour déchet (par kilogramme) deux grammes d'or au titre de 900/1000 - -	6	20
Total - - - -	9	44

Pour

401

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

Pour l'Argent.

	f.	*c.*
Frais de fabrication (par kilogramme) des pièces de 5 fr.	2	02
2 fr.	2	30
1 fr.	2	75
1/2 fr.	3	40
1/4 de fr.	4	53

et pour déchet dans les fontes d'argent 500 grammes par 100 kilogrammes (1 fr. par kilogramme).

Mais cette disposition, qui, surtout à l'égard des pièces d'argent fractionnaires, portait les frais de fabrication fort au-dessus du tarif fixé par la loi du 7 Germinal, an 11, fut abrogée par un décret du 20 Janvier 1811.

Ce dernier décret réduisit les frais de fabrication des espèces d'or de 3 fr. 24 cent. par kilogramme à 2 fr. 80 cent., et il statua que les frais de fabrication des pièces d'argent seraient payés indistinctement au taux de 2 fr. le kilogramme ; enfin il maintint l'allocation des déchets à 2 grammes par kilogramme d'or, et à 500 grammes par 100 kilogrammes d'argent. C'est en vertu de ce décret que les directeurs des monnaies reçoivent encore aujourd'hui.

Pour la Monnaie d'Or.

		f.	*c.*
Par Kilog.	Frais de fabrication	2	80
	Déchets (2 grammes)	6	20
	Total	9	00

Pour la Monnaie d'Argent.

		f.	*c.*
Par Kilog.	Frais de fabrication	2	00
	Déchets (5 grammes)	1	00
	Total	3	00

Le traité passé par l'un de mes prédécesseurs avec les directeurs des monnaies pour la refonte des espèces duodécimales étant arrivé à son terme, il m'a paru opportun d'examiner si les progrès notables qui se sont opérés dans les arts et l'industrie, pendant la longue periode qui s'est écoulée depuis la fixation du tarif en vigueur, ne permettent pas d'abaisser le taux des frais alloués aux directeurs des monnaies.

Jusqu'à ce moment l'élévation des tarifs peut n'avoir pas porté préjudice au commerce des matières d'or et d'argent. Les hôtels des monnaies étaient en assez grand nombre pour qu'il s'établît entre eux une concurrence semblable à celle qui existe entre les établissements industriels, de sorte que les directeurs des ateliers monétaires, bien qu'ils fussent investis par la loi du droit exclusif de fabriquer la monnaie, ont été forcés d'abaisser volontairement les prix de fabrication jusqu'à la limite où le travail cessait de leur offrir des bénéfices suffisants.

Mais cet état de choses présentait de graves inconvénients. D'une part, le trésor, obligé de se conformer au tarif fixé par la loi, et ne pouvant profiter des avantages que la concurrence ouvrait aux grandes fabrications, se trouvait forcé de payer celles qu'il faisait opérer pour le compte de l'état à un taux plus élevé que le commerce. De l'autre, des charges inégales étaient imposées aux porteurs de matières. Ainsi, le tarif légal était appliqué aux particuliers qui apportaient aux hôtels des monnaies de faibles quantités de matières, tandis qu'une modération de prix était accordée à ceux qui se livraient à des opérations étendues. De semblables arrangements ne semblaient pas de nature à appeler l'intervention de l'administration supérieure ; elle n'avait point à s'occuper de transactions volontairement consenties entre les directeurs et le commerce.

Aujourd'hui, les intérêts du trésor, comme ceux du public, exigent qu'il soit mis un terme à cette anomalie ; j'ai donc dû me livrer à la recherche des faits propres à déterminer la quotité de la réduction qu'il conviendrait de faire subir au tarif, de manière à assurer aux directeurs des monnaies la juste rémunération due à leurs travaux, et à conserver en même temps au commerce les avantages que lui avait procurés une concurrence assez étendue.

On sait quels progrès ont fait les sciences chimiques et les arts mécaniques depuis trente ans.

Dans l'état d'imperfection où se trouvait alors l'art de l'affinage et de la fonte des métaux, les règlements allouaient aux directeurs des monnaies, pour déchet dans les fontes, 6 fr. 20 c. par kilogramme d'or, et 1 fr. par kilogramme d'argent. Cependant il est établi, par des documents irrécusables, qu'aujourd'hui, dans les ateliers bien organisés et conduits par des hommes habiles, les déchets sur la fonte des matières d'or et d'argent sont presque nuls. Il s'ensuit qu'ils ne doivent plus être l'objet d'une appreciation distincte dans la fixation de la somme qu'il convient d'allouer pour frais de fabrication.

Les procédés de la fabrication des monnaies, s'ils ne sont pas partout aussi avancés qu'ils pourraient l'être, ont cependant éprouvé de grandes améliorations dont il est juste de faire profiter le public. Il est permis de penser qu'une réduction dans l'allocation des frais tournera à l'avantage de l'industrie monétaire, en ce qu'elle obligera les directeurs à

(B.)
French Mint.
Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

rechercher les moyens de diminuer les dépenses de main-d'œuvre et à adopter les procédés les meilleurs.

Mais si les faits généraux établissent la possibilité d'une réduction, c'est dans les faits particuliers que l'on peut seulement trouver les éléments propres à en déterminer la quotité. Il est constant que, pour se procurer des matières d'argent et entretenir le travail de leurs ateliers, les directeurs abandonnent un tiers du prix que leur alloue le tarif. Il paraît également incontestable que, dans la plupart des traités passés entre les directeurs des monnaies et le commerce, ils ont consenti à fabriquer des espèces d'argent à 2 francs, lorsque la loi leur permettait d'en exiger trois.

La concordance qui existe entre ces faits me paraît suffisante pour déterminer la quotité de la réduction à opérer sur les frais de fabrication, et je pense qu'ils peuvent être fixés de la manière suivante à partir, du 1er Juillet prochain, savoir:

Par kilogramme d'or (déchets compris), à raison de 6 fr. au lieu de 9 fr.

Et par kilogramme d'argent (déchets également compris), à 2 fr. au lieu de 3 fr.

Cette réduction aura pour effet d'augmenter dans une proportion relative la valeur des espèces duodécimales d'or et d'argent qui, d'après l'article 2 de la loi du 30 Mars 1834, ne sont plus reçues aux changes des hôtels de monnaies, depuis le 1er Janvier de l'année courante, que pour le poids qu'elles ont conservé.

Ainsi, à dater du 1er Juillet prochain, les espèces d'or, qui devraient être payées aux porteurs sur le pied de 3,091 fr. le kilogramme, seront payées 3,094 fr. le kilogramme, et les espèces d'argent, dont la valeur avait été fixée à raison de 200 fr. 60 cent. le kilogramme, y compris la bonification pour l'or contenu dans lesdites espèces, seront payées 201 fr. 60 cent. le kilogramme.

A l'occasion de la réduction des frais de fabrication, s'est élevée la question de savoir si elle devait être faite au profit du trésor, ou si elle tournerait exclusivement à l'avantage des porteurs de matières.

Je pense, Sire, qu'elle doit rester aux porteurs de matières. D'abord, le texte de la loi du 7 Germinal, an 11, cité au commencement de ce rapport, est trop formel à cet égard pour qu'il puisse exister le moindre doute sur la pensée du législateur. C'était alors et c'est encore aujourd'hui un principe hors de toute contestation que la fabrication des monnaies doit être dégagée de tout intérêt fiscal.

Je ne puis mieux faire pour fixer ce point que de citer les propres expressions de M. Daru, dans le discours fait au Tribunat lors de la présentation de la loi du 7 Germinal, an 11.

Après avoir exposé que la retenue exercée sur les frais de fabrication s'élevait encore en 1726, pour l'argent à 7 et 4/11 p. 0/0, M. Daru fait remarquer qu'en 1771 elle n'était déjà plus que de 2 et 7/9 p. 0/0.

"Ainsi, dit-il, les métaux ont tendu rapidement à se rapprocher de la valeur de la monnaie, c'est-à-dire que leur prix dans le commerce s'est élevé jusqu'à ne laisser au souverain que l'alternative d'exagérer d'autorité la valeur nominale de sa monnaie ou de se contenter d'un bénéfice qui n'est que le quart de celui qu'il faisait il y a cent ans.

"Ce bénéfice net était en effet peu considerable dans les derniers temps de la monarchie, puisqu'il ne se montait, déduction faite des frais, qu'à 500,000 fr. par an.

"Quelque modique que soit ce bénéfice, on conçoit d'abord que les gouvernements ne doivent point en faire sur un objet semblable, et que la différence entre la valeur des métaux et la monnaie doit être rigoureusement restreinte aux frais de fabrication.

"Il est évident que plus ce bénéfice sera modéré, moins il sera possible que le prix du métal varie par rapport à celui de la monnaie, puisque la monnaie n'excédera que très-peu la valeur du métal."

On a allégué, à l'appui de l'opinion opposée, que le bénéfice que le gouvernement s'attribuerait sur les frais de fabrication servirait à payer les traitements des fonctionnaires et des autres agents préposés à la surveillance des établissements monétaires.

La fabrication et la surveillance sont deux choses très-différentes et qui ne doivent pas être confondues. C'est avec raison que la loi a mis à la charge des porteurs de matières toutes les dépenses de la fabrication; mais elle n'a certainement extendu par là que les frais de manutention alloués à l'entrepreneur pour prix de son travail; il en doit être autrement de l'intervention exercée par le gouvernement pour assurer la fidélité des fabrications et pour garantir l'exactitude du titre et du poids des monnaies. Cette action est exercée dans l'intérêt de la société; par conséquent les dépenses qu'elle entraîne sont tout à fait analogues aux autres dépenses d'administration publique, et doivent être supportées par les fonds généraux.

Il existe d'ailleurs, pour repousser une semblable proposition, un motif qui me paraît péremptoire. Si l'État s'attribuait le bénéfice de la réduction, au lieu d'en laisser profiter les porteurs de matières, il s'ensuivrait que le commerce, qui jouit aujourd'hui, ainsi que je l'ai expliqué, d'une modération de prix, perdrait cet avantage; car les directeurs des monnaies ne recevant plus que 2 fr. par kilogramme d'argent, au lieu de 3 qui leur sont alloués aujourd'hui, ne pourraient plus faire aucune remise sur les frais: en résultat, le tarif, au lieu d'une réduction, consacrerait une augmentation de frais à la charge du commerce.

Il m'a paru nécessaire aussi de déterminer, par la même ordonnance, les dépenses qui doivent être supportées par les directeurs des monnaies, en ce qui concerne le remplacement et l'entretien des machines et ustensiles appartenant à l'État et mises à leur disposition pour la fabrication et le monnayage.

Cet objet forme la matière de la disposition comprise dans l'article 3 de l'ordonnance.

D'après

(B.)
FRENCH MINT.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

D'après les observations qui précèdent, j'ai l'honneur de soumettre à l'approbation de Votre Majesté un projet d'ordonnance conforme aux conclusions du présent rapport.

Le Ministre Secrétaire d'État des Finances,

Paris, le 25 Février 1835. *Humann.*

ORDONNANCE DU ROI.

LOUIS PHILIPPE, Roi des Français ;

Vu l'article 11 de la loi du 7 Germinal, an 11, qui fixe le taux des frais de fabrication des monnaies d'or et d'argent ;

Vu les décrets des 16 Messidor an 11, et 20 Janvier 1811, relatifs à la quantité de matière qui doit être passée en compte aux directeurs des monnaies, pour déchet dans les fontes ;

Considerant que les améliorations introduites dans les procédés de la fabrication des monnaies permettent d'abaisser le tarif des frais fixés par la loi du 7 Germinal, an 11, et les décrets rapportés ci-dessus ;

Sur le rapport de notre ministre secrétaire d'état des finances,

Nous avons ordonné et ordonnons ce qui suit :

Article premier.—A partir du 1^er^ Juillet prochain, les frais de fabrication des monnaies d'or et d'argent à payer aux directeurs des monnaies sont fixés, tous déchets compris, savoir :

Par kilogramme au titre monétaire (900 millièmes) ;

Pour les espèces d'or, à 6 fr. au lieu de 9 fr. ;

Pour les espèces d'argent, à 2 fr. au lieu de 3 fr.

Conformément à la loi du 7 Germinal, an 11, il ne pourra être exigé de ceux qui porteront les matières d'or et d'argent aux hôtels des monnaies, que les frais de fabrication au taux fixé ci-dessus.

Art. 2.—En conséquence de l'article précédent, à dater de la même époque, les espèces duodécimales d'or démonétisées, qui, d'après l'article 2 de la loi du 30 Mars 1834, devaient être payées au change des hôtels des monnaies sur le pied de 3,091 fr. le kilogramme, seront payées 3,094 fr. le kilogramme ; et les espèces duodécimales d'argent démonétisées, dont la valeur avait été fixée à 200 fr. 60 cent., y compris la bonification pour l'or contenu dans lesdites espèces, seront payées 201 fr. 60 cent. le kilogramme.

Art. 3.—Les directeurs des monnaies sont chargés du remplacement et de l'entretien de toutes les machines et ustensiles, tels que laminoirs, balanciers, découpoirs et autres instruments appartenant à l'État, et mis à leur disposition pour la fabrication et le monnayage.

Ils sont tenus de se pourvoir à leurs frais des machines, ustensiles et instruments dont il serait nécessaire d'augmenter le nombre, soit pour perfectionner la fabrication, soit pour en accroître l'activité.

Le prix des coins et viroles continue d'être à la charge des directeurs, ainsi que le frais de pesage, de comptage et de vérification des espèces monnayées et délivrées.

Art. 4.—Notre ministre secrétaire d'état des finances est chargé de l'exécution de la présente ordonnance.

LOUIS PHILIPPE.

Par le Roi,

Le Ministre Secrétaire d'État des Finances,

Fait à Paris, le 25 Février 1835. *Humann.*

MINISTÈRE DES FINANCES.

Secrétariat Général.—Division des Régies et Administrations Financières.

DÉCISION.

Monnaies.

Mesures de surveillance à exercer sur les versements faits au change des hôtels des Monnaies.

Le Ministre Secrétaire d'État des Finances ;

Vu la délibération de la commission des monnaies, en date du 28 Décembre dernier,

Arrête ce qui suit :

Article premier.—Les bons souscrits par les directeurs des monnaies, pour les versements faits au bureau du change des hôtels des monnaies, ne pourront excéder les délais indiqués ci-après ;

Savoir :

Paris, Lille et Rouen, huit jours.
La Rochelle, Limoges, Lyon, Nantes et Strasbourg, dix jours.
Bordeaux, douze jours.
Bayonne, Marseille, Toulouse, seize jours.
Perpignan, dix-huit jours.

Les directeurs sont tenus, sous leur responsabilité personnelle, et quel que soit l'état des travaux, de pourvoir au payement des bons de monnaie à leur échéance.

Art. 2.—Il sera établi, au bureau du change des hôtels des monnaies, une caisse à deux clefs ; l'une de ces clefs sera déposée entre les mains du directeur, et l'autre dans celles du contrôleur au change.

(B.)
French Mint.

Appendix, No. 31.
Communication from M. Thiers to Earl Granville.

Dans cette caisse seront renfermées,

1°. Les matières d'or et d'argent versées au change par les particuliers, lorsque ces matières seront en quantité trop considérable pour être livrées immédiatement aux travaux ;

2°. Les espèces fabriquées depuis le moment de la délivrance, jusqu'à l'acquittement des bons.

Art. 3.—A la fin de chaque journée, le contrôleur au change devra reconnaître le solde des matières et espèces existant dans la caisse du change, et s'assurer qu'il est conforme aux écritures.

Art. 4.—Le directeur continue d'être responsable des matières et espèces versées au change ou renfermées dans la caisse à deux clefs; il lui appartient par conséquent de prendre ou de provoquer les mesures qu'il croirait propres à garantir la sûreté des valeurs qu'elle renferme.

Art. 5.—Le commissaire du Roi fera établir, à la fin de chaque journée, et se fera remettre par le contrôleur au change un état de situation journalière, conforme au modèle ci-annexé, lequel restera déposé entre ses mains.

Art. 6.—Le commissaire du Roi fera, toutes les fois qu'il le jugera convenable, la vérification matérielle de la caisse et des ateliers, en présence du contrôleur et du directeur, afin de s'assurer si toutes les matières inscrites au bureau du change sont exactement représentées par celles existant dans les travaux et par les espèces fabriquées et délivrées.

La vérification complète de la caisse et des travaux, établissant la situation du directeur, devra être faite par le commissaire du Roi au moins une fois par mois.

Ces vérifications seront constatées par un procès-verbal, dont une expédition sera envoyée à la commission des monnaies.

Art. 7.—Les registres tenus par les directeurs des monnaies, pour constater les opérations du change, seront arrêtés, jour par jour, par le contrôleur au change, et visés par le commissaire du Roi.

Art. 8.—Ampliations de la présente décision seront remises aux directeurs de la comptabilité générale des finances et du mouvement général des fonds, au secrétaire général, et à M. le président de la commission des monnaies, chargés de se concerter pour donner les instructions nécessaires à son exécution.

(signé) *Humann.*

Pour ampliation :
Le Secrétaire Général des Finances,
(signé) *De Boubers.*

Pour copie conforme :
Le Président de la Commission des Monnaies et Médailles,
Paris, 26 Février 1835. C^te^ *De Sussy.*

(C.)

Appendix, No. 32.

(C.)
American Mint.

Appendix, No. 32.
Letter from Mr. R. M. Patterson to J. Buchanan, Esq.

MINT OF THE UNITED STATES.

Sir, Philadelphia, 7 December 1836.

Mr. Buchanan, of the United States' Senate, has communicated to me your desire to obtain information as to the manner in which the business of this establishment is conducted; and I have not known how I could convey it to you more satisfactorily than by sending a copy of a Bill which I prepared last winter, which was reported to Congress by the Committee of Ways and Means, and which, I have no doubt, will be acted upon early this session. It does not differ essentially in its provisions from the present laws and customs of the Mint, except in the following particulars :

1. The present standard of silver is 10 oz. 14 dwts. $4\frac{5}{13}$ grs. in the pound; and that of gold is 21 c. 2 $\frac{14}{43}$ grs. In the new Act it is proposed to make both standards 900 thousandths,—the weight of the silver coins being of course diminished, but still so as to retain the same quantity of pure metal.

2. In the new law it is proposed to reduce the weight of the dime and half dime, so as to establish a seignorage upon these coins, limiting, at the same time, the amount to which they are a legal tender.

3. The provision in Art. 32 is new.

The expenses of the establishment may be estimated at about 80,000 dollars per annum.

The capacity of the Mint for coinage has been about two millions of pieces per month; but measures have been taken, and are to some extent already completed, for increasing its powers very considerably. One of the most important of these is, the substitution of a lever press, moved by the steam-engine, for the screw-press heretofore employed.

No part of the work of the Mint is executed by contract, nor are there perquisites of any kind permitted.

You are aware that a Branch Mint, for general coinage, is established by law at New Orleans, and Branches for coining gold at North Carolina and Georgia. Neither of these has yet gone into operation.

If

(C.)
AMERICAN MINT.

Appendix, No. 32.
Letter from Mr. R. M. Patterson to J. Buchanan, Esq.

If there are any other points on which you desire information, I will communicate it to you with great pleasure.

I am, Sir, most respectfully,
Your faithful servant,
R. M. Patterson.

To James Buchanan, Esq.
&c. &c. &c.

P. S.—It may be proper to state, that we employ at the Mint about fifty workmen, and that the wages vary from $ 1. 30. to $ 2 per day. The new machinery and processes which we are introducing, will diminish the amount of manual labour considerably, and with it the expenses of the establishment, though the capacity of the Mint for coinage will be at least doubled.

A BILL supplementary to the Act intituled "An Act establishing a Mint, and regulating the Coins of the United States."

BE it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the officers of the Mint of the United States shall be a director, a treasurer, an assayer, a melter and refiner, a chief coiner, and an engraver, to be appointed by the President of the United States, by and with the advice and consent of the Senate.

Sect. 2. And be it further enacted, That the respective duties of the officers of the Mint shall be as follows:

First. The director shall have the control and management of the Mint, the superintendence of the officers and persons employed therein, and the general regulation and supervision of the business of the several branches. And in the month of January of every year he shall make report to the President of the United States of the operations of the Mint and its branches for the year preceding. And also to the secretary of the treasury, from time to time, as said secretary shall require, setting forth all the operations of the Mint subsequent to the last report made upon the subject.

Second. The treasurer shall receive, and safely keep, all moneys which shall be for the use and support of the Mint; shall keep all the current accounts of the Mint, and pay all moneys due by the Mint, on warrants from the director. He shall receive all bullion brought to the Mint for coinage; shall be the keeper of all bullion and coin in the Mint, except while the same is legally placed in the hands of other officers; and shall, on warrants from the director, deliver all coins struck at the Mint to the persons to whom they shall be legally payable. And he shall keep regular and faithful accounts of all the transactions of the Mint, in bullion and coins, both with the officers of the Mint and the depositors; and shall present, quarter yearly, to the treasury department of the United States, according to such forms as shall be prescribed by that department, an account of the receipts and disbursements of the Mint, for the purpose of being adjusted and settled.

Third. The assayer shall carefully assay all metals used in coinage, whenever such assays are required in the operations of the Mint; and he shall also make assays of coins whenever instructed to do so by the director.

Fourth. The melter and refiner shall execute all the operations which are necessary in order to form ingots of standard silver or gold, suitable for the chief coiner, from the metals legally delivered to him for that purpose.

Fifth. The chief coiner shall execute all the operations which are necessary in order to form coins, conformable in all respects to the law, from the standard silver and gold ingots, and the copper planchets, legally delivered to him for this purpose.

Sixth. The engraver shall prepare and engrave, with the legal devices and inscriptions, all the dies used in the coinage of the Mint and its branches.

Sect. 3. And be it further enacted, That the directors shall appoint, with the approbation of the President, assistants to the assayer, melter and refiner, chief coiner, and engraver, and clerks for the director and treasurer, whenever, on representation made by the director to the President, it shall be the opinion of the President that such assistants or clerks are necessary. And it shall be the duty of the assistants to aid their principals in the execution of their respective offices, and of the clerks to perform such duties as shall be prescribed for them by the director.

Sect. 4. And be it further enacted, That whenever any officer of the Mint shall be temporarily absent, on account of sickness, or any other sufficient cause, it shall be lawful for the director, with the consent of the said officer, to appoint some person attached to the Mint to act in the place of such officer during his absence; and that the director shall employ such workmen and servants in the Mint as he shall from time to time find necessary.

Sect. 5. And be it further enacted, That every officer, assistant, and clerk of the Mint, shall, before he enters upon the execution of his office, take an oath or affirmation before some judge of the United States, or judge of the superior or any court of record of any State, faithfully and diligently to perform the duties thereof.

Sect. 6. And be it further enacted, That the following officers of the Mint, before entering upon the execution of their respective offices, shall become bound to the United States, with one or more sureties, to the satisfaction of the secretary of the treasury, in the sums hereinafter mentioned, with condition for the faithful and diligent performance of the duties of their offices: viz. The treasurer in the sum of ten thousand dollars; the assayer in the sum of five thousand dollars; the melter and refiner in the sum of ten thousand dollars; and the chief coiner in the sum of ten thousand dollars. And that similar bonds may also be required of the assistants and clerks, in such sums as the director shall determine, with the approbation of the secretary of the treasury.

(C.)
AMERICAN MINT.
Appendix, No. 32.
Letter from Mr. R. M. Patterson to J. Buchanan, Esq.

Sect. 7. And be it further enacted, That there shall be allowed to the officers of the Mint the following salaries per annum: To the director, for his services, including travelling expenses incurred in visiting the different branches, and all other charges whatever, three thousand five hundred dollars; to the treasurer, assayer, meiter and refiner, chief coiner, and engraver, each, two thousand dollars: to the assistants and clerks, such annual salaries shall be allowed as the director may determine with the approbation of the President: Provided, That an assistant shall not receive more than fifteen hundred dollars; and that a clerk shall not receive more than twelve hundred dollars; to the workmen and servants shall be allowed such wages, to be determined by the director, as may be customary and reasonable, according to their respective stations and occupations; and that the salaries provided for in this section shall be payable in quarterly instalments.

Sect. 8. And be it further enacted, That the standard for both gold and silver coins of the United States shall hereafter be such, that of one thousand parts by weight, nine hundred shall be of pure metal, and one hundred of alloy; and the alloy of the silver coins shall be of copper; and the alloy of the gold coins shall be of copper and silver, provided that the silver do not exceed one-half of the whole alloy.

Sect. 9. And be it further enacted, That of the silver coins, the dollar shall be of the weight of four hundred and twelve and one-half grains; the half dollar of the weight of two hundred and six and one-fourth grains; the quarter dollar of the weight of one hundred and three and one-eighth grains; the dime, or tenth part of a dollar, of the weight of forty grains; and the half dime, or twentieth part of a dollar, of the weight of twenty grains. And that dollars, half dollars, and quarter dollars, shall be legal tenders of payment, according to their nominal value, for any sums whatever, and dimes and half dimes shall be legal tenders of payment, according to their nominal values, for any sums less than one dollar.

Sect. 10. And be it further enacted, That of the gold coins, the weight of the eagle shall be two hundred and fifty-eight grains; that of the half eagle one hundred and twenty-nine grains; and that of the quarter eagle sixty-four and one-half grains. And that for all sums whatever, the eagle shall be a legal tender of payment for ten dollars; the half eagle for five dollars; and the quarter eagle for two and a half dollars.

Sect. 11. And be it further enacted, That the silver coins heretofore issued at the Mint of the United States, and the gold coins issued since the thirty-first day of July one thousand eight hundred and thirty-four, shall continue to be legal tenders of payment for their nominal values, on the same terms as if they were of the coinage provided for by this Act.

Sect. 12. And be it further enacted, That of the copper coins, the weight of the cent shall be one hundred and sixty-eight grains, and the weight of the half cent eighty-four grains. And the cent shall be considered of the value of one hundredth part of a dollar, and the half cent of the value of one two-hundredth part of a dollar. And that the cent and half cent shall be a legal tender in payment, according to their nominal value, for all sums less than a dime.

Sect. 13. And be it further enacted, That upon the coins struck at the Mint there shall be the following devices and legends: upon one side of each of said coins there shall be an impression emblematic of liberty, with an inscription of the word LIBERTY, and the year of the coinage; and upon the reverse of each of the gold and silver coins, there shall be the figure or representation of an eagle, with the inscription United States of America, and a designation of the value of the coin; and on the reverse of the dime and half dime, cent and half cent, the figure of the eagle shall be omitted.

Sect. 14. And be it further enacted, That gold and silver bullion brought to the Mint for coinage, shall be received and coined, by the proper officers, for the benefit of the depositor: Provided, however, that it shall be lawful to refuse, at the Mint, any deposite of less value than two hundred dollars, and any bullion so base as to be unsuitable for the operations of the Mint; and provided also, that when gold and silver are combined, if the value of either of these metals, after deducting the expense of separation, be less than ten dollars, such metal shall not be separated for the benefit of the depositor; and that when gold is combined with silver in such small proportion that it cannot be separated advantageously, the whole may be coined as silver bullion.

Sect. 15. And be it further enacted, That when bullion is brought to the Mint for coinage, it shall be weighed by the treasurer, in the presence of the depositor, when practicable, and a receipt given, which shall state the description and weight of the bullion.

Sect. 16. And be it further enacted, That when the bullion is in such a state as to require melting before its value can be ascertained, the weight after melting shall be considered as the true weight of the bullion deposited.

Sect. 17. And be it further enacted, That from every parcel of bullion deposited for coinage, the treasurer shall deliver to the assayer a sufficient portion for the purpose of being assayed; but all such bullion remaining from the operations of the assay shall be returned to the treasurer by the assayer.

Sect. 18. And be it further enacted, That the assayer shall report to the treasurer the quality or standard of the bullion assayed by him; and he shall also communicate to the treasurer such information as will enable him to estimate the amount of the charges hereinafter provided for, to be made to the depositor; for the expenses of converting the bullion into standard metal fit for coinage.

Sect. 19. And be it further enacted, That the only subjects of charge by the Mint to the depositor shall be the following: for refining when the bullion is below standard; for toughening when metals are contained in it which render it unfit for coinage; for copper used for alloy when the bullion is above standard: for silver introduced into the alloy of gold; and for separating the gold and silver when these metals exist together in the bullion; and that the rate of these charges shall be fixed, from time to time, by the director, with the concurrence

rence of the secretary of the treasury, so as not to exceed in their judgment the actual expense to the Mint of the materials and labour employed in each of the cases aforementioned; and that the amount received from these charges shall be accounted for, and appropriated for defraying the contingent expenses of the Mint.

Sect. 20. And be it further enacted, That from the report of the assayer, and the weight of the bullion, the treasurer shall estimate the whole value of each deposite, and also the amount of the charges or deductions, if any; of all which he shall give a detailed memorandum to the depositor; and he shall also give, at the same time, under his hand, a certificate of the net amount of the deposite, to be paid in coins of the same species of bullion as that deposited.

Sect. 21. And be it further enacted, That parcels of bullion shall be, from time to time, transferred by the treasurer to the melter and refiner; that a careful record of these transfers, noting the weight and character of the bullion, shall be kept; and that the bullion thus placed in the hands of the melter and refiner shall be subjected to the several processes which may be necessary to form it into ingots of the legal standard, and of a quality suitable for coinage.

Sect. 22. And be it further enacted, That the ingots thus prepared shall be assayed by the assayer, and if they prove to be within the limits allowed for deviation from the standard, they shall be transferred by the melter and refiner to the treasurer, accompanied by the assayer's certificate of their fineness; and that a careful record of the transfer shall be kept by the treasurer.

Sect. 23. And be it further enacted, That no ingots of gold shall be used for coinage of which the quality differs more than two thousandths from the legal standard; and that no ingots of silver shall be used for coinage of which the quality differs more than three thousandths from the legal standard.

Sect. 24. And be it further enacted, That in the treasurer's account with the melter and refiner, the melter and refiner shall be debited with the standard weight of all the bullion placed in his hands, that is to say, with the weight of metal of legal standard fineness which it will make; and that he shall be credited by the standard weight of all the ingots delivered by him to the treasurer; and that once at least in every year, at such time as the director shall appoint, the melter and refiner shall deliver up to the treasurer all the bullion in his possession, in order that his accounts may be settled up to that time; and, in this settlement, he shall be entitled to a credit for the difference between the whole amount of bullion delivered to him and received from him, since the last settlement, as an allowance for necessary waste: Provided, that this allowance shall not exceed two thousandths of the whole amount of gold and silver bullion, respectively, that had been delivered to him by the treasurer.

Sect. 25. And be it further enacted, That the treasurer shall, from time to time, deliver over to the chief coiner, ingots for the purpose of coinage; that he shall keep a careful record of these transfers, noting the weight and description of the ingots; and that the ingots thus placed in the hands of the chief coiner shall be passed through the several processes necessary to make from them coins, in all respects, conformable to law.

Sect. 26. And be it further enacted, That in adjusting the weights of the coins, the following deviations from the standard weight shall not be exceeded in any of the single pieces: In the dollar and half dollar, one grain and a half; in the quarter dollar, one grain; in the dime and half dime, half a grain; in the gold coins, one quarter of a grain; in the copper coins, one grain in the pennyweight; and that in weighing a large number of pieces together, when delivered from the chief coiner to the treasurer, and from the treasurer to the depositors, the deviations from the standard weight shall not exceed the following limits: Four pennyweights in one thousand dollars; three pennyweights in one thousand half dollars; two pennyweights in one thousand quarter dollars; one pennyweight in one thousand dimes; one pennyweight in one thousand half dimes; two pennyweights in one thousand eagles; one and a half pennyweights in one thousand half eagles; one pennyweight in one thousand quarter eagles.

Sect. 27. And be it further enacted, That the chief coiner shall, from time to time, as the coins are prepared, deliver them over to the treasurer, and shall keep a careful record of their kind, number and weight; and that in receiving the coins, it shall be the duty of the treasurer to see whether the coins of that delivery are within the legal limits of the standard weight; and if his trials for this purpose shall not prove satisfactory, he shall cause all the coins of this delivery to be weighed separately, and such as are not of legal weight shall be delivered to the melter and refiner, as standard bullion, to be again formed into ingots and recoined.

Sect. 28. And be it further enacted, That at every delivery of coins made by the chief coiner to the treasurer, it shall be the duty of the treasurer, in the presence of the assayer, to take, indiscriminately, a certain number of pieces of each variety for the annual trial of coins, (the number being prescribed by the director,) which shall be carefully labelled, deposited in a chest set apart for the purpose, and kept under the joint care of the treasurer and assayer, and so secured that neither can have access to its contents without the presence of the other.

Sect. 29. And be it further enacted, That the chief coiner shall, from time to time, deliver to the treasurer the clippings and other portions of bullion remaining after the process of coining, and that the treasurer shall keep a careful record of their amount.

Sect. 30. And be it further enacted, That in the treasurer's account with the chief coiner, the chief coiner shall be debited with the amount in weight of standard metal of all the bullion placed in his hands, and credited with the amount, also by weight, of all the coins, clippings, and other bullion delivered by him to the treasurer; and that once at least in every year, at such time as the director shall appoint, the chief coiner shall deliver to the treasurer all the

(C.)
AMERICAN MINT.
Appendix, No. 32.
Letter from Mr. R. M. Patterson to J. Buchanan, Esq.

coins and bullion in his possession, so that his accounts may be settled up to that time; and, in this settlement, he shall be entitled to a credit for the difference between the whole amount of the ingots delivered to him, and of the coins and bullion received from him, since the last settlement, as an allowance for necessary waste: Provided, that this allowance shall not exceed two thousandths of the whole amount of the silver, or one thousandth of the whole amount of the gold, that had been delivered to him by the treasurer.

Sect. 31. And be it further enacted, That when the coins which are the equivalent to any deposite of bullion are ready for delivery, they shall be paid over to the depositor, or his order, by the treasurer, on a warrant from the director; and the payments shall be made, if demanded, in the order in which the bullion shall have been brought to the Mint, giving priority according to priority of deposite only; and that in the denominations of coin delivered, the treasurer shall comply with the wishes of the depositor, unless when impracticable or inconvenient to do so, in which case the denominations of coin shall be designated by the director; but no coins beyond the amount to which such coins are made a legal tender, shall be delivered to the depositor without his consent.

Sect. 32. And be it further enacted, That for the purpose of enabling the Mint to make the returns to depositors with as little delay as possible, it shall be the duty of the secretary of the treasury to keep in the said Mint, when the state of the treasury will admit thereof, a deposite of such amount of public money, or of bullion procured for the purpose, as he shall judge convenient and necessary, out of which those who bring bullion to the Mint may be paid the value thereof, as soon as practicable after this value has been ascertained; that the bullion so deposited shall become the property of the United States; that no discount or interest shall be charged on moneys so advanced; and that the secretary of the treasury may at any time withdraw the said deposite, or any part thereof, or may, at his discretion, allow the coins formed at the Mint to be given for their equivalent in other money.

Sect. 33. And be it further enacted, That to secure a due conformity in the gold and silver coins to their respective standards and weights, an annual trial shall be made of the pieces reserved for this purpose at the Mint and its branches, before the judge of the district court of the United States for the eastern district of Pennsylvania, the attorney of the United States for the eastern district of Pennsylvania, and the collector of the port of Philadelphia, and such other persons as the President shall from time to time designate for that purpose, who shall meet as commissioners, for the performance of this duty, on the second Monday in February, annually, and may continue their meetings by adjournment if necessary; and if a majority of the commissioners shall fail to attend at any time appointed for their meeting, then the director of the Mint shall call a meeting of the commissioners at such other time as he may deem convenient; and that before these commissioners, or a majority of them, and in the presence of the officers of the Mint, such examination shall be made of the reserved pieces as shall be judged sufficient; and if it shall appear that these pieces do not differ from the standard fineness and weight by a greater quantity than is allowed by law, the trial shall be considered and reported as satisfactory; but if any greater deviation from the legal standard or weight shall appear, this fact shall be certified to the President of the United States, and if, on a view of the circumstances of the case, he shall so decide, the officer or officers implicated in the error shall be thenceforward disqualified from holding their respective offices.

Sect. 34. And be it further enacted, That copper bullion shall be purchased for the Mint, from time to time, by the treasurer, under instructions from the director; that the cost shall be paid from the fund hereinafter provided for; and that the copper bullion shall be of good quality, and in the form of planchets fit for passing at once into the hands of the chief coiner.

Sect. 35. And be it further enacted, That the copper shall be delivered, from time to time, by the treasurer to the chief coiner, and shall be by him coined, and returned to the treasurer, weight for weight, without allowance for waste.

Sect. 36. And be it further enacted, That it shall be the duty of the treasurer of the Mint to deliver the copper coins in exchange for their legal equivalent in other money to any persons who shall apply for them: Provided, that the sum asked for be not less than a certain amount to be determined by the director, and that it be not so great as, in his judgment, to interfere with the capacity of the Mint to supply other applicants.

Sect. 37. And be it further enacted, That the copper coins may, at the discretion of the director, be delivered in any of the principal cities and towns of the United States, at the cost of the Mint for transportation.

Sect. 38. And be it further enacted, That the money received by the treasurer in exchange for copper coins shall form a fund in his hands, which shall be used to purchase copper planchets, and to pay the expense of transportation of copper coins; and that if there be a surplus, the same shall be appropriated to defray the contingent expenses of the Mint.

Sect. 39. And be it further enacted, That in every delivery of dimes and half dimes to the treasurer, he shall ascertain the gain produced to the Mint by the reduction in the proportional weights of these coins authorized by this Act; and the amount so gained shall be accounted for, and appropriated to defray the expenses of the Mint.

Sect. 40. And be it further enacted, That all Acts or parts of Acts heretofore passed, relating to the Mint and coins of the United States, which are inconsistent with the provisions of this Act, be, and the same are hereby, repealed.

(D.)

Appendix, No. 33.

DUTCH MINT.

MEMORANDUM upon the DUTCH MINT, delivered to Mr. *Labouchere* by Mr. *Poëlmen*, Assayer, and one of the Directors of the Mint at *Utrecht*.

(D.)
DUTCH MINT.

Appendix, No. 33.
General Mint-office or Board, and its duties.

THE management of all matters concerning the Mint, and the care of the punctual execution of the statutes and acts relative to the coinage, are intrusted by the regulations of the fundamental law to a state college or Board, under the title of counsellors and general masters of the Mint. It is at present composed of three members, equal in rank, of whom one, by turn, is president for three months, and the Board is assisted by an inspector-general and King's assayer, and by a secretary.

This Board resides at Utrecht, where the Mint also is, the only one in the kingdom at present, since the occurrences of the year 1830.

The officers of the Mint are all placed under the direct command of the said Board. By its superintendence the observance of the mandates regulating the duties of these officers is secured, and the dies (matrices, puncheons and dies for coining) kept in custody, and the cancelling prescribed of such dies which are no more of any use. Its obligations also extend to the proper care of the buildings of the Mint and the instruments, which are the property of government.

Trial of the pyx.

When the pyx is opened for the trial, the experiments or proofs to ascertain the weight and the standard of the coin are made, in the presence of all the members of the Board, by the inspector-general and King's assayer. For this purpose all the pieces of money contained in the pyx are weighed, and a certain quantity of pieces of every sort is cut in halves, and the one half is melted, and the bar produced by it carefully assayed at each end. By the result of these experiments, the work of the Mint-master for a certain period is judged. An official report is made of this operation, and sent to his Majesty, to the Minister of Finance, and to the Chamber of Accounts. A copy of it is also sent to the Mint-master as a discharge for himself and the other officers.

Trial of the coin before delivery.

Besides, it is usual with us, as at the Mint-office in France, to make trial of a certain number of pieces of coin, both of the weight and standard, previous to delivery. In case of approbation, the prescribed number of pieces of that part is put into the pyx, and authorization given to deliver the coin. If the weight or standard should be deficient, the said part is to be remelted, at the expense of the Mint-master, under the care of the warden or comptroller.

The supreme decision of all disputes about the standard of coin, as well as of ingots, including such as may occur in the trade of gold and silver, is by law left to the said Board. Their decision also extends to the nature and composition of counterfeit coins, which may lead to prosecution, either criminal or correctional, before the courts of law.

The making of these assays and experiments form part of the duties of the inspector-general and King's assayer, who resides in the Mint free of expense. Another part of his duty is to advise the Board on every subject relating to the Mint.

No person is allowed to act as assayer, either for the Board or for private parties, until he has passed an examination before the Board, to prove his skill and ability. On the delivery of a testimonial to that effect, he is qualified to act as assayer for the trade.

The recommendation of any measures which require the Royal sanction is made by the Board to his Majesty, through the medium of the Minister of Finance, who submits them to the King, with such observations as he thinks the matter may require.

The Board carries on a direct correspondence with all the ministerial departments, governors of provinces and other authorities.

The salary of the members of the Board is 2,500 guilders each.

That of the inspector-general and King's assayer 3,000 guilders.

That of the secretary 1,800 guilders.

The emoluments consist only in the fees given by government at the opening of the pyx and the subsequent trial. They amount to 300 guilders for each of the above-named members and officers.

Clerks' office.

There is an office composed of clerks, not exceeding the number of five or six.

Officers of the Mint and subordinates.

The officers of the Mint are,

One Mint-master; one warden or comptroller; one assayer.

A company of moneyers, consisting of a provost and 12 members.

One chief engraver, and one or two second engravers.

An engineer or superintendent of every thing relating to the machinery.

System on which the Mint is conducted.

The Mint-master has no salary, but an annual allowance of 1,000 guilders, by way of indemnity for some profits which the Mint-masters formerly enjoyed. He has his house in the Mint free.

Mint-master.

There exists a contract between government and the Mint-master, nearly similar to the practice adopted in France, relating to alloying, melting, casting, rolling, cutting out and coining, so as to make the coin ready for being issued, after approval.

The coining-presses, the milling-tools, the rolling-frames, the steam-engine, and the machinery connected with it, are for account of government.

The cutting-out presses, the cylinders or rollers, and all other tools and implements, such as crucibles, &c., are for account of the Mint-master, who also provides coals and other requisites.

The remuneration of the Mint-master is regulated by the weight of coin delivered.

Cost of the coinage.

For the coinage of gold it amounts to about two-thirds per cent.

For that of silver of the usual value to about two per cent.

For silver coins less than a guilder, it varies in proportion to their value, and may extend to five per cent.

The latter are generally coined at the expense of the State, as the merchants are not in the habit of having any of them coined.

Seignorage.

The only seignorage on gold coins is on ducats, which (as it is well known) are made for the purpose of foreign trade. It amounts to rather more than one-seventh per cent. above the cost of the coinage.

The seignorage on silver coin of the value of one guilder and upwards is about one-tenth per cent. above, as before; but for some years past government has relinquished it, in order to encourage the coinage of silver.

Provost and moneyers.

The Mint-master is obliged, out of his remuneration, to pay the provost and moneyers for their labour, according to a scale for every description of coin; and they are to pay the additional labourers who are required.

The melters and labourers not connected with the coinage are paid separately by the Mint-master.

The appointment of provost and moneyers is made by the Board on the recommendation of the Mint-master. Their number is never less than 12, but may be more.

Warden.

The duties of warden consist in weighing the proper quantities of coin at each coinage, and afterwards in sending in the pieces intended for the trial, and also to place in the box the pieces required for the pyx.

He is to deliver to the Mint-master the dies for coining, and to receive them from him after having been used. He is to see that the moneyers and all inferior parties attend to their duties; and that the instruments, which are the property of government, are kept in good order. His salary is 2,000 guilders.

Assayer.

The assayer has the charge of making assays from the parts melted, and also of plates cut out from the bars. A declaration of his finding is sent in by this officer, to control the alloys made by the Mint-master. His salary amounts to 1,000 guilders. He has a laboratory in the Mint.

The engravers are paid by way of salary, varying from 1,400 to 2,400 guilders per annum. They are obliged to survey the formation of the dies by the puncheons, and to finish them, as it is requisite. The making and hardening of the dies is left to the charge of the Mint-smith, and the prices are regulated by agreement.

When any medal is to be engraved by the order of government, it is paid separately, according to the size and the arrangement of such a medal. In case it should be required that new dies (matrices and puncheons) were to be engraved, an extra-remuneration may be allowed by government to the engravers.

The Mint at Utrecht, in its present state, will be able to produce in silver coin (suppose pieces of one and three guilders) from 75 to 80/m pieces a day. In smaller monies, with the aid of a greater number of coining-presses fit for that purpose, the quantity of pieces struck might be increased.

In gold (pieces of ten guilders) from 60 to 65/m pieces a day; say 50,000 *l.* to 54,000 *l.* sterling.

In addition to the matters above enumerated, the Board has a separate jurisdiction over all manufacturing gold and silver, for which they have separate officers and establishments in the provinces.

(A.)—*continued.*

(A.) *continued.* Royal Mint.

Appendix, No. 34.

Appendix, No. 34. Messrs. Garbett's Report on the Mint, 1782.

Messrs. *Garbett's* Report on the Mint, 1782.

To the Right Hon. The Lords Commissioners of His Majesty's Treasury.

My Lords,

Upon receiving your Lordships' commands to inspect into the state of the Mint, we immediately applied for the indenture or agreement between the King and the Hon. Charles Sloan Cadogan, master and worker of His Majesty's monies, as the instrument from which the whole executive part of the business originated and moved.

In this indenture we found the establishment of the Mint with the references to the different Acts of Parliament passed for its support; a schedule of most of the officers; the prices paid for workmanship; the allowance for errors in workmanship, and many other things not necessary to state to your Lordships.

We then proceeded to consider the great objects for investigation, and determined to examine—

The fidelity and accuracy with which the standards of fineness and of weight in the gold coin had been adhered to;

The manner in which the business had been conducted for the public accommodation;

The reasonableness of the rates paid for manufacturing bullion into gold coin;

The contingent and incidental expenses,—and then to notice such things which in the progress of the inquiry might appear worthy of attention.

In order to form a distinct judgment on these particulars, it became indispensably necessary to examine the business minutely.

When the bullion is first brought into the Mint, it is carried to the Master's assayer, who reports the fineness from his assays, with which if the importer is dissatisfied, the King's assayer may be appealed to, and his determination by a proof assay, made in the presence of the warden, master and comptroller, is binding upon the master and worker, by ascertaining the value. The bullion is then carried to the Mint-office, where the weigher and teller declares its weight in his scale, and its fineness from the Master's assayer's report in writing, both which the warden, comptroller, and King's clerk, and Master's clerk, take down in the presence of the importer, and immediately calculate the quantity of standard gold contained in the bullion; and their several calculations agreeing, the proper entries are made in their respective books, and a receipt, called a Mint bill, is given to the importer, specifying the weight of the standard gold he has brought in. If upon the calculations fine gold is to be added, to make the bullion standard, it is done in the office, but if copper alloy is wanting, it is afterwards added by the surveyor of the meltings. The weight is then wrote upon the assay paper, by the weigher and teller, and remains with the bullion under the locks and keys of the warden, master and comptroller, until it is carried to be melted. The surveyor of the meltings sees it put into the pot and melted, and cast by the melter into small bars, and during this operation the surveyor never leaves the room nor allows a single pot to be uncovered without his notice.

To prove that the operations have been properly conducted, a small bit is cut from the first, and another from the last gold bar cast out of each pot, which bits the surveyor sends to the King's assayer, who permits the bars of that pot to be delivered to the moneyers, if upon his assay he finds them standard.

The moneyers roll these bars to a proper thickness, and cut out pieces of the size of the intended coin, but generally a little heavier, and then, with cautious attention, through several judicious checks, adjust them, piece by piece, till, being as nearly exact as possible, they are marked, annealed and coined, and brought into the Mint-office in journeys of 15 lb. weight each, together with the scissel or refuse, the latter to be delivered to the melter to be recast, and the former to be examined by the warden, comptroller and King's assayer as check officers.

We attended the only delivery of coin since our appointment, amounting to 96 journeys of 15 lb. each, and in cash to 67,284*l.* when 45 guineas being taken out of each journey by the weigher and teller, and delivered to the King's assayer, he weighed them against a pound weight, to which a half-guinea weight was added, 44½ guineas being to weigh a pound. He then mentioned aloud their exact weight in his scale, which was immediately entered by the warden, the master's clerk, King's clerk, and by the King's assayer himself.

The same 45 guineas were then delivered to the comptroller, who weighed a number of the pieces separately, and a few proving more than half a grain under the standard weight were cut by the warden.

The 45 guineas having passed these checks, were handed to the warden, who took therefrom two pieces, one of which was delivered to the King's assayer, and the other, being sealed up with the seals of the warden, master and comptroller, was secured in a strong box, under their respective locks and keys, in order that the fineness and weight might be afterwards publicly tried by the Goldsmiths' Company.

The remainder of the 45 guineas being returned to the journey from which they had been taken, and the other journeys having undergone the same operation (called pyxing), the monies were locked up under the same separate locks and keys, and a lock and key of the moneyers, until the King's assayer the next day declared from his assays of the pieces thus taken that the whole of the monies were standard, and then and not before the monies were delivered to the importer, weight for weight, as expressed in the Mint bill (or receipt),

(A.) *continued.* ROYAL MINT.

Appendix, No. 34. Messrs. Garbett's Report on the Mint, 1782.

which had been given when the bullion was brought in, and which receipt was the returned.

Having thus gone through the business, and seeing that the standard of weight had been properly noticed by the official checks, we consulted the records from the year 1769, and found that on the average, when the monies were delivered to the importer, they had proved lighter than standard weight, 2 grs. 156 dwt. in the pound troy, and which had amounted during Lord Cadogan's mastership to 200 lb. 8 oz. 7 dwt. 15 grs. in weight; in cash to 9,377 *l.* 12 *s.* 8 ¼ *d.*, and that sum had been paid to the Bank of England by the moneyers.

As the lightness of the monies had been much within the bounds allowed for error, and no advantage having arose to the master or moneyers from that circumstance, and observing that the standard of fineness depended upon the King's assayer alone until after the coin was in circulation, we applied for his record book of assays, and from thence we learnt that in general the deviations from standard were so very inconsiderable, and so minutely stated, that to determine whether the coin on an average is above or below standard in fineness might prove an arduous task, taking it for granted, as the records were regularly kept, so the assays were accurately made too. This being the case the Master's assayer adds his credence by firmly giving it as his opinion, that no error in fineness will be found in any one guinea of the present King's reign, if in any since the year 1740. As far therefore as we are capable of judging at present, it will be difficult to distinguish whether the coin of his present Majesty has been better or worse than standard; it is however capable of proof for the four last years, by a trial of the guineas, sealed up as the pyx, and now in the Mint, and which trial is to ascertain the fineness of upwards of three millions of guineas sent into circulation during that time.

The next consideration was, the manner in which the business had been conducted for the public accommodation.

On this head we applied to the Bank of England, as having been the sole importers of gold into the Mint for a considerable time, and were therefore the best and properest judges of it, and upon inquiry were assured that the gentlemen who conducted the Mint business, had in every respect executed it with such punctuality and attention as to give them the utmost satisfaction; and so much confidence was placed in the Mint assays, that of late years they had solely relied upon them.

The next object of consideration was the reasonableness of the rates paid for manufacturing bullion into gold coin.

By the Indenture dated the 28th day of November 1770, between the King and the present Lord Cadogan, master and worker of His Majesty's monies, after a pension of 500 *l.* a year is granted to him, it is covenanted (inter alia) that he shall be paid 6 *s.* 8 ¼ *d.* per pound troy for coining guineas, and 7 *s.* 10½ *d.* for half guineas, and for which sums he undertook to coin the same, and to pay out of them to the moneyers for each pound troy of guineas, 3 *s.* 6 *d.*, and for half-guineas 4 *s.* 6 *d.*, and to the die forger 1¼ *d.* per lb. for guineas, and 1½ *d.* for half-guineas. In the explanatory accounts delivered by his Lordship to the Treasury, the 2d of April 1782, he states the division of the prices as follows:

For a lb. troy of guineas.	*s.*	*d.*	Ditto for half-guineas.	*s.*	*d.*
The Master	1	10		1	10
Melter	1	3		1	5
Moneyers	3	6		4	6
Die-forger	–	1¼		–	1½
	6	8¼		7	10¼

The first article of 1 *s.* 10 *d.* per lb. on all gold coined, payable to the master, has amounted during Lord Cadogan's mastership to the sum of 50,504 *l.* 4 *s.* 2 *d.*, and which is a mere perquisite.

The second article of 1 *s.* 3 *d.* for guineas, and 1 *s.* 5 *d.* for half-guineas per lb. troy, paid to Lord Cadogan as melter, amounted during his mastership to 34,825 *l.* out of which his loss of gold alone is stated to be above 10,500 *l*, and his profits to above 11,500 *l.*, so that nearly one-third of the money paid for melting was clear profit to his Lordship.

The third article is the prices of 3 *s.* 6 *d.* for guineas, and 4 *s.* 6 *d.* for half guineas per lb. troy, paid to the moneyers, who are a body corporate and refused permission to inspect their accounts, but delivered in writing an annual account in gross for 12 years prior to January 1782, from which it appears.

That the whole of their receipt was 104,423 *l.* 5 *s.* 3 *d.*

	£.	*s.*	*d.*
And their expenses	25,786	16	7
And their profits	78,636	8	8
£.	104,423	5	3

Upon being asked if these profits were over and above the allowance which might have been made to such of their members who executed the business, they refused to answer; it may therefore not be unreasonable to suppose that those members who attended the business were paid for it out of the 25,786 *l.* 16 *s.* 7 *d.* stated as expenses, over and above their

413

(A.)
continued.
ROYAL MINT.

their share of 78,636 *l.* 8 *s.* 8 *d.* which is stated as profits. It may be proper to lay before your Lordships the annual gain for 12 years of every member of the corporation, over and above the allowance which might have been made to those who did the business, viz.:

Appendix, No. 34.
Messrs. Garbett's Report on the Mint, 1782.

			£.	s.	d.
In the year	1770	there were 10 masters, and each of them gained	236	10	3
—	1771	9	315	—	7
—	1772	8	411	7	8
—	1773	7	715	17	1
—	1774	6	2,362	8	7
—	1775	6	2,558	7	6
—	1776	6	2,529	3	2
—	1777	8	1,368	10	2
—	1778	8	174	16	6
—	1779	9	572	18	11
—	1780	9	22	17	2
—	1781	11	250	9	5

During three years of the great recoinage, the master moneyers were six in number, at present they are increased to eleven, whereby the profits to each are diminished, although the rates paid are the same, which afforded each of the six moneyers a profit of 2,481 *l.* 13 *s.* 1 *d.* per annum for those three years, and their refusing to enter into any further particulars than in the gross account delivered in writing, an opinion cannot at present be formed what would be a reasonable rate to allow them for their work in the mode they carry it on; but it may be done considerably cheaper than the rates paid to them. Yet as the Tower of London is the only place in England where a coinage should be carried forward, and the moneyers having for a long number of years acquitted themselves with great reputation, it requires consideration how far it may be proper to make any alterations in their prices; but we do not hesitate to say that the melting of the bullion should be added to their business, at 10 *d.* for guineas, and 11½ *d.* for half-guineas per lb. troy. This might be immediately adopted without any other alteration than delivering the bullion to them from the Mint-office, instead of delivering it to the melter: the business would be simplified by this means, would be carried on in the same place, and in the same manner, under the same inspection and check of the surveyor of the meltings, and the warden, Master, and comptroller. The moneyers would have no cause to complain, as it would be matter of gain to them; and by proving less expensive to the public, would be a reason for continuing the other rates for their work as stated in the indenture with the Master. There cannot be a greater objection to trusting the moneyers now, than has hitherto been practised, for half a million has been frequently in their hands at a time with accounts unsettled for years, and often more than 20,000 *l.* due to them for workmanship. Besides, in the present mode of conducting the Mint business, they are the only people who are entrusted with the bullion without check; and if they were permitted to agree with the office or warden, &c., in the first instance, for making the monies at the prices, and the prices above stated for melting, and the money for payment of salaries, contingent expenses, &c., was to be issued to the Mint-office, or warden, &c., from an account stated to the Treasury, signed by the warden and comptroller, the mastership would fall nominally to what is in reality a mere sinecure; and not a single officer or person employed in the Mint would be displaced, for the whole business has been done by deputies; and had this arrangement taken place at the beginning of Lord Cadogan's mastership, 62,000 *l.* would have been saved to the public.

The last article of 1½ *d.* for guineas, and 1⅓ *d.* for half-guineas per lb. troy, paid to the die forger, has amounted, during Lord Cadogan's mastership, to 2,918 *l.* 7 *s.* 8 *d.* which is much more than the best dies for work of a similar nature are bought for.

Having thus gone through the rates paid for manufacturing bullion into gold coin, the next in succession is the contingent and incidental expenses; and here there has been paid for buildings and repairs on the several offices, from the year 1770 to 1781 both inclusive, the sum of 16,240 *l.* 9 *s.*

Since the great recoinage there has been built a large set of mill rooms and working rooms, &c., fitted up with many expensive fixtures for carrying on an extensive coinage. The estimate of the mills and buildings came to 5,800 *l.*, but on account of the fixtures, have amounted to considerably more; this, with the rebuilding and repairing of furnaces and chimneys for the late recoinage, rebuilding the front of the Mint-office, and the whole of the press-room, and new paving the street of the Mint, make up the sum of 16,240 *l.* 9*s.* But no account of the particulars are in the Mint, it having been delivered into the auditors' office, and perhaps a satisfactory opinion with regard to the reasonableness of the charge could scarcely now be made; nor doth there, for the same reason, appear any particulars of a charge of 9,930 *l.* 10 *s.*, laid out during the same period for work and materials in the several houses and buildings, the estimated rent or annual value of which for the same time amounts to 4,881 *l.*, the repairs being double the annual value or rent; we therefore desired Mr. Vardy, the surveyor of the Mint, to inspect into their actual condition, and to state what they would be likely to cost in repairs for the next seven years. He has accordingly done so, and reports that 350 *l.* a year will keep them in repair for seven years. As some of the houses have been taken down, their annual value or rent is reduced to 336 *l.*, so that the annual repairs, it is said, will still be more than the annual value or rent.

Mr. Vardy was likewise desired to make the same report as to offices, &c., which he has accordingly done, and that the sum of 330 *l.* a year will be sufficient to keep them in

(A.)
continued.
ROYAL MINT.

Appendix, No. 34.
Messrs. Garbett's Report on the Mint, 1782.

repair for the next seven years, not including contingent expenses attending an extraordinary coinage.

The water pumper and lighter of lamps for the offices and houses are paid 20 *l.* a year each, and the scavenger is paid by the load for what he carries away, which upon an average of 12 years is 48 *l.* 4*s.* 2 *d.* per annum. These advantages render the several houses more valuable, of which the greatest number are let by the officers to indifferent persons unconnected with the Mint.

There is an allowance of 170 *l.* a year for house rent to some of the officers of the Mint, and 50 *l.* a year to the warden, and 20 *l.* a year to the King's clerk in compensation for their houses, which were pulled down; in all, 240 *l.* a year, which will be noticed in the state of each officer's emoluments.

The diet or entertainment for the officers of the Mint at the times when coin is delivered is restricted to 52 *l.* a year, the master being to bear what is over; it has amounted on the average of 12 years to 40 *l.* 7 *s.* per annum.

There are many other articles which, during the 12 years, were as follows, viz.:

	£.	s.	d.
Refiner's Bill	2,689	15	9
Charcoal	2,413	2	–
Sea coal	72	16	–
Sea coal for Mint-office	120	–	–
Scale-maker's bill	893	6	6
Purveyor for necessaries	500	15	–
Expenses in the assay-office	342	16	7
Amounting to £.	7,032	11	10

or on average to 586 *l.* 0 *s.* 11 *d.* per annum.

The officers themselves are the proper checks upon these charges, and any opinion strangers can form thereon cannot have a good foundation.

The stationer's bill amounted in 12 years to 1,266 *l.* 11 *s.* 9 *d.*; and by the bill of last year, amounting to 110 *l.* 3 *s.* 6 *d.*, we observe—

	£.	s.	d.
That stationery sent to particular officers who never attend was	51	6	9
And to deputies who have not occasion in the Mint business for the stationery as there set down	16	2	–
£.	67	8	9

And we have accordingly placed it in their accounts as profits.

A trifling article of coach hire, of 6 *l.* 2 *s.* a year, paid to the deputy-warden, deputy-master, and deputy-comptroller, when passing their accounts, will not do more than defray the expense.

There is likewise a trifling article of 10 *l.* 15 *s.* a year for two watermen's coats and badges; they are used to carry a little charcoal for trial of the pyx to Westminster, and for their attendance that day; it is an annual charge, but the pyx having been tried only twice in 12 years, it amounts to 64 *l.* 10 *s.* each time.

The last article to notice under this head of incidental expenses, is the fees paid at the Exchequer, &c., on passing accounts, which in 12 years amounted to 9,956 *l.* 13 *s.* 8 *d.*, or on average to 829 *l.* 11 *s.* 1½ *d.* per annum.

Under this head of incidental expenses it seems proper to annex the annual profits, by salary or emoluments, of every person whose name appears in the Mint accounts. The manner in which these profits arise or are averaged will be seen in the Appendix.

An Average of the clear Yearly Profits to the following Officers, viz:

		£.	s.	d.
The warden	Sir Robert Pigot	400	4	2
The master and worker	Lord Cadogan	5,652	13	1
The comptroller	John Buller, esq.	291	16	–
The King's assayer	Joseph Lucas	343	4	–
The weigher and teller	Maurice Morgan, esq.	128	13	2
The surveyor of the meltings and clerk of the irons.	George Augustus Selwyn, esq.	114	4	6
The King's clerk and clerk of the papers	William Dick	112	13	2
The chief engraver	Lewis Pingo	240	15	6
The 2d ditto	Ralph Ocks	99	7	8
The 3d ditto	John Pingo	100	14	4
The deputy warden	Edward Lucas	150	15	4
The clerk to the warden	Edward Eastland	95	12	–
The deputy and clerk to the master and purveyor	William Gregory	208	14	4
The clerk to the master	Thomas Day	64	–	–

(A.) *continued.* ROYAL MINT.

Appendix, No. 34. Messrs. Garbett's Report on the Mint, 1782.

		£.	s.	d.
The deputy comptroller and King's clerk of the copper coinage.	James Morrison	178	1	–
The master's assayer	Slanesby Alchorne	290	–	4
The deputy to the weigher and teller	Asher Jones	40	–	–
The deputy to the surveyor of the meltings and to the clerk of the irons	John Jones	46	10	–
The deputy to the King's clerk and clerk of the papers	Thomas Norris	26	–	–
The fireman and clerk to the King's assayer	Samuel Peg	35	–	–
The foreman of the master's assayer	Francis Hawes	25	–	–
The smith to the engraver and die-forger and smith to the Mint	Reuben Fletcher	150	–	–
The corporation of moneyers refusing particulars, can only state the average of gain per annum	–	6,553	–	8
The surveyor of the money-pressers	John Chambers	60	–	–
The auditors, 20 *l.* each		40	–	–
The minister		4	–	–
The sexton		1	–	–
The porter	John Kempe	63	8	–
The stamper of money weights	John Whitehurst	270	–	–
The office-keeper	Susannah Godfrey	25	–	–
The office-sweeper		9	10	–
The solicitor	Mr. Vernon	63	16	6
Besides any profits made by prosecuting counterfeiters of coin, which, upon the average of six years and three-quarters, has cost, per ann., 838*l.*				
The surveyor, annual salary, 21 *l.*, which, together with the allowance of 5 per cent. on new buildings	John Vardy	44	–	–

It may here be necessary to observe that the business of the Mint has been conducted for many years by the following deputies, viz.:

The deputy to the warden,
— master,
— comptroller,
— weigher and teller,
— surveyor of the meltings and clerk of the irons,
— King's clerk and clerk of the papers.

The principals, therefore, do not appear in any respect material to the establishment in the way it has gone on, except only in receiving money at the Treasury, and paying the same to whom it is due, and being the nominal contractors with the King for making the monies.

The clerk to the warden, 95 *l.* 12 *s.* a year, and the office-keeper, 25 *l.* a year, are mere sinecures, there being no attendance or duty done.

The office-sweeper at 10 *l.* a year, pays 10 *s.* per annum to a woman for doing the work.

The yearly salary of 20 *l.* to each of the auditors, of 4 *l.* to the minister, and 1 *l.* to the sexton, are of ancient standing.

The stamper of money-weights is a late appointment by Act of Parliament.

We shall now state to your Lordships such things which in the progress of the inquiry appear worthy of your notice.

We had reason to believe that our gold coin was not estimated at foreign mints of the same fineness our standard declares it, viz.: 22 parts fine gold and two parts alloy; and upon intimating this circumstance to the King's and Master's assayer, we were informed that a plan had been settled prior to the re-coinage, for ascertaining the actual fineness of the coin, and that guineas of every separate reign had been melted into ingots of 15 lb. each without intermixing the different reigns; that from the contrary ends of each ingot they had made assays which so nearly accorded, as not to leave a doubt but the coins were worse than standard. The King's assayer's record of them was as follows: viz.

				s.	d.	
Charles 2	26 Troy grains in a lb. worse than standard			9	10 ¼	per cent.
James 2	30	—	—	11	4 ½	—
William 3	13	—	—	4	11	—
Anne	7	—	—	2	7 ½	—
George 1	6	—	—	2	3 ¼	—
George 2	3	—	—	1	1 ½	—
George 3	standard.	—	—	standard.		

The accuracy of these assays was farther confirmed by nearly the same average of worseness being found upon more than 170,000 guineas, taken promiscuously from those reigns. And there is reason to think that upwards of 17,000 *l.* was lost on this account to the public in the re-coinage, and upwards of 50,000 *l.* gained by some person or other during those reigns.

In this place it should be observed, that if all our gold coin does not vary more than

(A.)
continued.
ROYAL MINT.

Appendix, No. 34.
Messrs. Garbett's Report on the Mint, 1782.

40 troy grains in fineness and in weight, or in both together, it is allowed by the Mint indenture to pass as standard.

During Lord Cadogan's mastership the average of weight hath been only 2gr. 156dw. lack per lb., which was paid by the moneyers at the scale; and in upwards of 40,000 assays, from the specimens of coin taken at the pyx (of 28 millions sent into circulation) only one hath deviated in fineness three grains in the lb., and from the public trials of them by the Goldsmiths' Company there hath not been recorded more than four grains error in weight, and no deviation in fineness; the Master of the Mint therefore might have varied in fineness 36 troy grains in a lb., or 13/7¾ per cent. without being liable to censure, if it did not appear he had done it by design. This is sufficient to show the impropriety of allowing a latitude of 40 troy grains in a lb. for error in fineness and in weight, together or in either, and which has so operated as to make our guineas of less value than we declare them, and to be estimated, as we are informed, at the Dutch Mints, 10 grains worse; nor do they make any difference either in Holland or in France, between our present king's guineas and those of former reigns. How far this deficiency affects the par of exchange in money and the course of exchange in bills, we submit to consideration as a matter of great importance.

We cannot leave this subject of remedy or latitude for error in our coin without remarking, that there is no necessity for allowing a greater remedy or latitude for fineness and weight than has appeared to be actually necessary from the experience of the great re-coinage; and they are so separate and distinct from each other, both in nature and practice, that we see no reason for combining the remedy of fineness for the assayer with the remedy of weight for the moneyer, and particularly as the latter pays for his error upon delivering his coin at the scale.

By the indenture between the King and the Master a register is ordered to be kept of the pot-assays, or those which are made from the small bits cut from the bars before they are delivered to the moneyers. A minute report of these assays ought to be delivered into the Mint-office and recorded; and for further security the Master's assayer should assay from the same bars, as a check upon his former assay, and his report likewise recorded in the Mint-office, and from thence should be issued by the warden and comptroller for the delivery of the bars to the moneyers, or for remelting them; there in the first instance would the checks be placed before the expense of manufacturing had begun, and in this stage of the business ought a small remedy or latitude for error to be allowed, not exceeding what the experience of the great recoinage justifies, viz. 3 grains.

There should likewise be recorded in the office a minute report of the assays made by the King's assayer from the specimens of the coin taken as the pyx, and the Master's assayer should likewise assay the same pieces as a farther security; the variation which might happen in these assays to a certain fixed degree might be allowed to pass; this would necessarily occasion more trouble to the Master's assayer, but he might receive greater payment with additional help, and where so great a trust is reposed, the assayers themselves ought to be answerable for the faithfulness of a standard, the error or abuse of which is evident in the reigns of former kings, and clearly proves the necessity of establishing more effectual checks than the public trial by the Goldsmiths' Company.

In the investigation of the subject of worseness in our coin, the accounts delivered by the Bank of England relative to the recoinage, necessarily came under examination, and we observe in them a charge of 16,786 *l.* 14 *s.* 6 *d.* for melting of gold coin. The usual price per ingot of 15 lb. is 5 *s.*, but being assured it was necessary to flux the gold coin to render it more soft and ductile, the price was 15 *s.* per ingot, which occasioned an extraordinary expense of more than 10,000 *l.*

We likewise observed that the Bank of England had charged 232,535 *l.* 4 *s.* 1 *d.* for interest and management, after the rate of 3 per cent. per annum for money advanced by them in the purchase of gold to recoin; and that there had been paid to them in cash at the Mint scales between 5,000 *l.* and 6,000 *l.*, (probably 5,700 *l.*) because the new coin was not of full weight, and which 5,700 *l.* was a profit the Bank of England would have been entitled to had the ingots from which the coin was made been their own private property; but as they were paid the expenses of melting, &c., and likewise for interest and management of these identical ingots, even to the very day of receiving the new coin, the ingots were the actual property of the public, and therefore the Bank of England do not seem to us to be entitled to that profit. In order to prevent any mistake in facts upon this article, a letter was wrote on the subject to Mr. Alchorne, the Master's assayer, desiring he would go to the Bank and show it to the treasurer, and return an answer. Copy of the letter and answer are in the Appendix.

With regard to the Mint-houses and buildings, it is proper to observe that out of 17 only five are occupied either by the principal or deputy, to whom they belong, but are let at a rent to others; and though the absentees gain only the rent, the public has lost during the last 12 years more than double the rent in repairs of these houses, which seem unnecessary to that part of the establishment to which they are appropriated.

We submit it to consideration how far it may be equitable to refuse to repair houses which are let to others and are not occupied by the principal or deputy, and whether the tenants to such officers should not be obliged to do it at their own costs, under the inspection of the surveyor, and that such officers who occupy the houses appointed to themselves should be obliged to keep them in repair, and have a small reasonable allowance for that purpose, to be laid out under the same inspection.

That the moneyers should likewise have an allowance for the offices under their charge, to be laid out under the same inspection; if such a regulation should take place, a considerable reduction in this expense might possibly be effected, and which, from the surveyor's

Report,

417

(A.)
continued.
ROYAL MINT.

Appendix, No. 34.
Messrs. Garbett's Report on the Mint, 1782.

Report, will still amount in the next seven years to 680 *l.* per annum, viz. for houses and buildings estimated at the yearly value of 336 *l.*, there will be wanting 350 *l.* a year to keep them in repair, and which are now stated to be, "with few exceptions, in as good repair as they will admit of," and these exceptions are valued at 41 *l.* per annum, and are not inhabited by those officers to whom they are appropriated; for the repairs of the offices 330 *l.* per annum is stated in the Report, and which consist mostly of plain walls, floors and roofs, said to be "in good condition," except some houses to cover charcoal and a smith's shop of little consequence.

The smith, assistant to the engraver, has for such assistance a salary, which, with an allowance for house rent, amounts to 50 *l.* a year. He has likewise been paid certain rates upon the coinage as die forger: these rates appear to belong with more propriety to the chief engraver, who ought to be the best artist the kingdom produces, and whose work upon a die is of such superior value, that he has an interest in procuring the best possible dies for saving his own labour; if therefore he had purchased the dies where he could have been served best and cheapest, and a reasonable price allowed him per lb. or upon the coinage, he might have gained a reasonable profit, and the work done considerably cheaper.

Soon after the recoinage of gold Mr. Alchorne, the Master's assayer, was sent abroad to inspect into the mints of France and Flanders, in order to obtain such knowledge as might be useful if a silver coinage should take place at home; he accordingly wrote a description of their melting furnaces, and some general remarks on the several mints, and was allowed 200 *l.* by the Lords of the Treasury for his expenses, &c. This description and remarks are now in the possession of Lord Cadogan, but should be deposited at the Mint-office with the models that have been made of the furnaces for the use of the public.

A small quantity of pieces under sixpences having been the only silver monies coined for many years, the same opportunity cannot be had for investigating the subject from the actual practice, and thereby ascertaining the profits of the melter and moneyers. The master's perquisite of 3 ¼ *d.* per lb. would however be a considerable object on a large coinage.

By the Mint indenture 62 shillings or 124 sixpences are ordered to be coined from a lb. troy of silver, the shillings and sixpences in currency being much under the standard weight. In order to know what they actually were, 15 lb. of shillings were taken promiscuously from the heap at a banker's and weighed, when there was found on an average 76 shillings in tale to the lb., and of sixpences 190. Many of them were probably of a composition of base metal, but were so difficult to distinguish, and the appearance of the real ones (as they now are) so easy to imitate, that many workmen of little skill impose their counterfeits upon the public; and the present state of the silver currency is such that it would be difficult to collect 5 *l.* worth of shillings or sixpences of that quality in weight and fineness as to become a legal tender or an exchange with foreigners. The consumption of silver in our manufactures is great, and a workman who has occasion for standard silver when his melting pot is heated, will find it his interest to put in the silver coin of full weight and of the known quality rather than buy of a refiner, who not only makes a profit but sells it of a quality worse than standard; hence it will follow that there is little probability of a silver coin continuing in circulation unless it is permitted to pass for more than it is worth in bullion, and which is fully proved by the present silver currency. Our gold coin being now esteemed a legal tender, there doth not appear a necessity for considering our silver money as such for more than 10 *s.* 6 *d.* If therefore a lb. of silver of 11 oz. 2 dwts fine and 18 dwts. of alloy, the present legal standard, was coined into 76 shillings or 152 sixpences, it would be a great accommodation to the public by distributing a better coin than is at present in circulation, and which would probably continue there, as its value in money would be superior to the bullion it contained, and being executed by our best artist the lives of many poor counterfeiters would be preserved.

By the information we receive at the Mint, we find the certain duties upon brandy and strong waters under the title of Mint duties, are appropriated for the support of that establishment; these being paid into the Exchequer, 1,200 *l.* is issued in the first place to the officers of the Mint in Scotland; the remainder from time to time is issued to the Master of the Mint in the Tower by authority of a Treasury warrant for 20,000 *l.*, which remains in force until the whole is paid upon it. If in any one year these Mint duties are not sufficient for answering the expenses of the Mint for that year (which is always the case), the Master is authorised by Parliament to apply for so much more money at the Treasury, as shall, with the coinage duties of that year, not exceed 15,000 *l.* in the whole (including the 1,200 *l.* to the Scots Mint), and which the Treasury then pay out of any other yearly supply. This is the source from which the Master of the Mint receives the money for the establishment, except that at the trial of the pyx, when the monies retained for such purpose are paid to him on account.

It does not appear necessary to be more particular on this subject as it is officially before your Lordships.

The copper coinage not being considered as properly belonging to the Mint, the consideration of it has been reserved for this place.

The King's warrant directed to the Master and Worker authorises him to receive from time to time into his Majesty's Mint fine British copper in bars or fillets, which when heated red hot will spread then under the hammer without cracking, and of such a thickness, that 46 halfpence or 92 farthings may make a pound avoirdupoise, excepting such small errors as may happen by the unequal sizing of the fillets, and that the Master and Worker shall endeavour that they be not in excess or defect above the 40th part of the whole weight, and this not by design, but by accident, and that he shall pay for such

(A.) *continued.* ROYAL MINT.

Appendix, No. 34. Messrs. Garbett's Report on the Mint, 1782.

coppers imported after such rates as the Lords Commissioners of the Treasury shall allow, and shall coin such monies, and at such times as the Lords shall direct, and that the new monies shall be delivered in small parcels to such of his Majesty's subjects as shall come for the same, allowing 1*d.* in every 7 lb. weight for any defect which may happen in the tale from the unequal sizing of the pieces; and for coining the same fillets into money the Master is to be paid 4½ *d.* per lb. or 42 *l.* per ton. And he is ordered to pay 20 *s.* per ton to the King's clerk of the copper coinage for keeping accounts, &c., for which the Master is to be allowed.

The division of 42 *l.* is stated as follows:

	£.	s.	d.
To the master	9	2	4
moneyers	25	13	4
engravers	2	6	8
die forger	2	6	8
deputy master	1	–	–
assay master	–	5	–
deputy warden	–	16	–
weigher	–	5	–
delivering	–	5	–
£.	42	–	–

The quantity of copper coined into halfpence from the 1st June 1769 to the 31st December 1781 was 200 tons 19 cwt., and of farthings 15 tons 9 cwt., in all 216 tons 8 cwt.; which gave a profit to Lord Cadogan of 1,972 *l.* 16 *s.* 11 *d.*, and to the other officers as stated in their emoluments.

A coinage of Irish halfpence has likewise been carried on at the Mint in consequence of the King's warrant for that purpose, which orders 52 halfpence or 104 farthings to be cut out of a lb. avoirdupoise of copper under the same trials and of the same fineness as the English copper, allowing 1-30th for error in sizing, instead of 1-40th, and for such coinage the master was to be paid 46 *l.* 13 *s.* 4 *d.*; and he is directed to pay 20 *s.* per ton to the King's clerk of the copper coinage, &c., for which he is to be allowed.

The division of this 46 *l.* 13 *s.* 4 *d.* is stated as follows:

	£.	s.	d.
To the master	13	18	4
moneyers	26	16	8
engraver	2	6	8
die forger	2	6	8
deputy master	1	–	–
assay master	–	5	–
£.	46	13	4

The quantity of copper thus coined into halfpence, from June 1769 to November 1782, was 135 tons 2 cwt., and 5 tons for Virginia at the same price, in all 140 tons 2 cwt., which gave a profit to Lord Cadogan of 1,949 *l.* 14 *s.* 6 *d.*, and to the other officers as stated in their accounts of emoluments.

But it may be observed that there is no profit allowed to the deputy-warden, the weigher, or for delivering, which, taken together upon the English copper coinage, is 26 *s.* per ton.

The expenses attending both the English and Irish copper coinage are paid out of the profits which arise from the halfpence being of so much greater nominal value than the copper of which they are made, and the expenses of making, and the remaining profits, after the expenses are paid, are accounted for on the Irish coinage to the Irish revenues at large, and on the English, after deducting expenses of prosecuting counterfeiters, to His Majesty's Exchequer.

And here it may be proper to state the actual cost and the profits per ton on the British halfpence, which are sold for 211 *l.* 10 *s.*

	£.	s.	d.
Copper	121	6	8
Master	42	–	–
King's clerk	1	–	–
Allowance for defects	1	6	8
£.	165	13	4
Profit	45	16	8
£.	211	10	–

Tons

(A.)
continued.
ROYAL MINT.

Appendix, No. 34.
Messrs. Garbett's Report on the Mint, 1782.

This profit the public gained upon every ton of copper coined; but the demand was not considerable, for the expense of carriage to distant places, and the interest of money employed in the business, as well as the trouble and time in distributing the coin, has fell upon the purchaser; it cannot therefore be supposed that such a transaction would be of long continuance.

In the year 1754 the good copper money was reported by the Mint officers at 1,800 tons, and of bad estimated by the traders at 1,200 tons; in all, 3,000 tons; but the enormous degree to which counterfeiting has increased is too obvious to need illustration, and the present laws are found ineffectual to remedy it. The profits are so great, from the money being made 1-3d lighter, and of a worse material than good money, that the makers sell 28 *s.* to 30 *s.* to 32 *s.* worth in tale for a guinea, which enables it to be circulated to the farthest parts of the kingdom, with profit to the undertakers.

For remedy of this grievance the following particulars are submitted to consideration.

That after a certain limited time it shall be lawful for the magistrate to seize and cut any quantity of counterfeit copper coin wheresoever the same shall be found.

That every person shall have power to cut any counterfeit copper coin offered them in payment, returning the same when so cut.

That a new copper coinage shall be executed at the Mint as expeditiously as possible from dies of a superior engraving, with a milled foilage round the edge.

That a per centage shall be given with the coin sufficient to pay the expense of carriage to different parts of the kingdom, and a small allowance for interest of money and trouble in distributing.

That no perquisites shall be allowed but for business actually done, and the manufacturing performed as cheap as possible.

The power to cut the counterfeit money after a certain limited time would withdraw it from circulation, when the new money could replace it; and it would be no sufficient reason against its being so done that the people who have chosen to take the bad money may be losers.

The coin being struck from dies of superior engraving will deprive less skilful artists of the power of copying them, and the foilage on the edge, if made hollow in the middle, will prevent their being cast, as the pieces will not draw without breaking the mould; and had these means been adopted it might have prevented the making of bad halfpence.

The allowance for carriage, interest of money and trouble in distributing, would circulate the good copper money throughout the kingdom, as many respectable people would be glad to lend their aid when secure from loss and with a small gain; and had this been the practice, it would have operated as a check in the first instance for the preventing counterfeits.

By procuring the copper, and manufacturing the coin as cheap as possible, still preserving the same checks from the Mint officers, there cannot be a doubt but the profit of 45 *l.* 16 *s.* 8 *d.* per ton would remain to the public after making an adequate allowance to the purchasers of halfpence for interest of money, carriage and distributing. And such a quality of coin might be disposed of as would produce a profit sufficient to support the Mint establishment for many years, for the bad money in circulation being estimated only at 2,000 ton, the profit upon replacing it with good will amount to 91,666 *l.* at the present gain the public receive.

We now offer to your Lordships the result of this inquiry into the Mint; but we should be wanting in justice to the different deputies in the Mint-office and to the King's and Master's assayer, if we did not assure you, that as far as we are enabled to judge, there hath been great punctuality, faithfulness and ability in the execution of their several departments,

We have the honour to be, my Lords, your Lordships' faithful servants,

(signed) *Samuel Garbett.*
Francis Garbett.

Appendix, No. 35.

AN ACCOUNT of all GOLD, SILVER and COPPER MONIES of the REALM coined at His Majesty's MINT, from the 1st January 1816 to the 31st December 1836; specifying the Weight, Number of Pieces, and Value of each Denomination of Money coined Yearly; and the Total Value of the respective Coinages in each Year.

DATE.	GOLD.									
	DOUBLE SOVEREIGNS.			SOVEREIGNS.			HALF SOVEREIGNS.			Total Value of the Gold Coinage during the Year.
	Weight.	Number of Pieces.	Value.	Weight.	Number of Pieces.	Value.	Weight.	Number of Pieces.	Value.	
	Lbs.		£. s. d.	*Lbs.*		£. s. d.	*Lbs.*		£. s. d.	£. s. d.
1816	—	—	—	—	—	—	—	—	—	—
1817	-	-	-	69,240	3,235,239	3,235,239 – –	22,260	2,080,197	1,040,098 10 –	4,275,337 10 –
1818	-	-	-	50,235	2,347,230	2,347,230 7 6	11,025	1,030,286	515,143 2 6	2,862,373 10 –
1819	-	-	-	76.[5]	3,574	3,574 9 3	-	-	-	3,574 9 3
1820	-	-	-	19,946.[37]	931,994	931,994 3 4½	375	35,043	17,521 17 6	949,516 – 10½
1821	-	-	-	201,286.[555]	9,405,114	9,405,114 6 3¾	2,475	231,288	115,644 7 6	9,520,758 13 9¾
1822	-	-	-	114,645	5,356,787	5,356,787 12 6	-	-	-	5,356,787 12 6
1823	660	15,419	30,838 10 –	13,200	616,770	616,770 – –	2,400	224,280	112,140 – –	759,748 10 –
1824	30	700	1,401 15 –	80,640	3,767,904	3,767,904 – –	6,330	591,538	295,769 5 –	4,065,075 – –
1825	-	-	-	89,895	4,200,343	4,200,343 17 6	8,145	761,150	380,575 2 6	4,580,919 – –
1826	-	-	-	122,505	5,724,046	5,724,046 2 6	3,690	344,830	172,415 5 –	5,896,461 7 6
1827	-	-	-	48,510	2,266,629	2,266,629 15 –	5,265	492,014	246,007 2 6	2,512,636 17 6
1828	-	-	-	8,265	386,182	386,182 2 6	13,320	1,244,754	622,377 – –	1,008,559 2 6
1829	-	-	-	52,320	2,444,652	2,444,652 – –	45	4,205	2,102 12 6	2,446,754 12 6
1830	-	-	-	51,105	2,387,881	2,387,881 2 6	-	-	-	2,387,881 2 6
1831	-	-	-	12,810	598,547	598,547 5 –	-	-	-	598,547 5 –
1832	-	-	-	79,980	3,737,065	3,737,065 10 –	-	-	-	3,737,065 10 –
1833	-	-	-	26,223	1,225,269	1,225,269 13 6	-	-	-	1,225,269 13 6
1834	-	-	-	-	-	-	1,432.[85]	133,899	66,949 12 5	66,949 12 5
1835	-	-	-	15,482.[955]	723,441	723,441 1 8	8,267.[038]	772,554	386,277 7 2	1,109,718 8 10
1836	-	-	-	36,690.[197]	1,714,349	1,714,349 9 3	1,571.[595]	146,865	73,432 16 2	1,787,782 5 5
TOTAL - £.	690	16,119	32,240 5 –	1,093,055.[597]	51,073,016	51,073,021 18 4¼	86,601.[483]	8,092,903	4,046,454 – 9	55,151,716 4 1¼

(A.) *continued.* ROYAL MINT.

Appendix, No. 35. Monies coined at the Mint, from 1816 to 1836.

421

0.49.

DATE.	SILVER.																	
	CROWNS.			HALF CROWNS.			SHILLINGS.			SIXPENCES.								
	Weight.	Number of Pieces.	Value.	Weight.	Number of Pieces.	Value.	Weight.	Number of Pieces.	Value.	Weight.	Number of Pieces.	Value.						
	Lbs.		£. *s.* *d.*	*Lbs.*		£. *s.* *d.*	*Lbs.*		£. *s.* *d.*	*Lbs.*		£. *s.* *d.*						
1816	- -	- -	- - -	34,560	912,384	114,048 - -	396,060	26,139,960	1,306,998 - -	116,400	15,364,800	384,120 - -						
1817	- -	- -	- - -	306,540	8,092,656	1,011,582 - -	348,960	23,031,360	1,151,568 - -	82,740	10,921,680	273,042 - -						
1818	- -	11,760	155,232 38,808 - -	110,040	2,905,056	363,132 - -	20,340	1,342,440	67,122 - -	32,460	4,284,720	107,118 - -						
1819	- -	51,780	683,496 170,874 - -	181,440	4,790,016	598,752 - -	115,080	7,595,280	379,764 - -	35,700	4,712,400	117,810 - -						
1820	- -	33,960	448,272 112,068 - -	90,780	2,396,592	299,574 - -	120,840	7,975,440	398,772 - -	11,280	1,488,960	37,224 - -						
1821	- -	33,180	437,976 109,494 - -	54,360	1,435,104	179,388 - -	37,320	2,463,120	123,156 - -	6,540	863,280	21,582 - -						
1822	- -	9,464.[33]	124,929 31,232 7 1	—	—	—	—	—	—	—	—	—						
1823	- -	- -	- - -	75,900	2,003,760	250,470 - -	10,500	693,000	34,650 - -	—	—	—						
1824	- -	- -	- - -	17,640	465,696	58,212 - -	63,000	4,158,000	207,900 - -	4,800	633,600	15,840 - -						
1825	- -	- -	- - -	85,560	2,258,784	282,348 - -	37,260	2,459,160	122,958 - -	3,660	483,120	12,078 - -						
1826	- -	- -	- - -	82,920	2,189,088	273,636 - -	96,240	6,351,840	317,592 - -	5,220	689,040	17,226 - -						
1827	- -	- -	- - -	- - -	- - -	- - -	8,700	574,200	28,710 - -	1,260	166,320	4,158 - -						
1828	- -	- -	- - -	1,889.[805]	49,890	6,236 7 1	2,880	190,080	9,504 - -	120	15,840	396 - -						
1829	- -	- -	- - -	19,260	508,464	63,558 - -	10,440	689,040	34,452 - -	3,060	403,920	10,098 - -						
1830	- -	—	— —	—	—	—	—	—	—	—	—	—						
1831	- -	- -	- - -	- - -	- - -	- - -	- -	- -	-	10,152.[99]	1,340,195	33,504 17 8						
1832	- -	—	— —	—	—	—	—	—	—	—	—	—						
1833	- -	—	— —	—	—	—	—	—	—	—	—	—						
1834	- -	- -	- - -	37,620	993,168	124,146 - -	48,840	3,223,440	161,172 - -	44,640	5,892,480	147,312 - -						
1835	- -	- -	- - -	10,680	281,952	35,244 - -	21,960	1,449,360	72,468 - -	11,760	1,552,320	38,808 - -						
1836	- -	- -	- - -	60,180	1,588,752	198,594 - -	54,060	3,567,960	178,398 - -	15,060	1,987,920	49,698 - -						
TOTAL	- -	140,144.[33]	1,849,905 462,476 7 1	1,169,369.[805]	30,871,362	3,858,920 7 1	1,392,480	91,903,680	4,595,184 - -	384,852.[99]	50,800,595	1,270,014 17 8						

(A.) *continued.*
ROYAL MINT.

Appendix, No. 35.

Monies coined at the Mint, from 1816 to 1836.

DATE.	SILVER.												Total Value of the Silver Coinage during the Year.
	FOURPENCES.			THREEPENCES.			TWOPENCES.			PENCE.			
	Weight.	Number of Pieces.	Value.	Weight.	Number of Pieces.	Value.	Weight.	Number of Pieces.	Value.	Weight.	Number of Pieces.	Value.	
	Lbs.		£. *s.* *d.*	*Lbs.*		£. *s.* *d.*	*Lbs.*		£. *s.* *d.*	*Lbs.*		£. *s.* *d.*	£. *s.* *d.*
1816	8	1,584	26 8 –	6	1,584	19 16 –	6	2,376	19 16 –	6	4,752	19 16 –	1,805,251 16 –
1817	7	1,386	23 2 –	6	1,584	19 16 –	6	2,376	19 16 –	13	10,296	42 18 –	2,436,297 12 –
1818	6	1,188	19 16 –	6	1,584	19 16 –	6	2,376	19 16 –	12	9,504	39 12 –	576,279 – –
1819	4	792	13 4 –	5	1,320	16 10 –	5	1,980	16 10 –	8	6,336	26 8 –	1,267,272 12 –
1820	5	990	16 10 –	5	1,320	16 10 –	4	1,584	13 4 –	10	7,920	33 – –	847,717 4 –
1821	5	990	16 10 –	5	1,320	16 10 –	5	1,980	16 10 –	5	3,960	16 10 –	433,686 – –
1822	15	2,970	49 10 –	15	3,960	49 10 –	15	5,940	49 10 –	15	11,880	49 10 –	31,430 7 1
1823	10	1,980	33 – –	10	2,640	33 – –	10	3,960	33 – –	16	12,672	52 16 –	285,271 16 –
1824	8	1,584	26 8 –	8	2,112	26 8 –	8	3,168	26 8 –	12	9,504	39 12 –	282,070 16 –
1825	12	2,376	39 12 –	13	3,432	42 18 –	10	3,960	33 – –	11	8,712	36 6 –	417,535 16 –
1826	12	2,376	39 12 –	13	3,432	42 18 –	10	3,960	33 – –	11	8,712	36 6 –	608,605 16 –
1827	14	2,772	46 4 –	12	3,168	39 12 –	10	3,960	33 – –	10	7,920	33 – –	33,019 16 –
1828	14	2,772	46 4 –	12	3,168	39 12 –	10	3,960	33 – –	10	7,920	33 – –	16,288 3 1
1829	14	2,772	46 4 –	12	3,168	39 12 –	10	3,960	33 – –	10	7,920	33 – –	108,259 16 –
1830	14	2,772	46 4 –	12	3,168	39 12 –	10	3,960	33 – –	10	7,920	33 – –	151 16 –
1831	18	3,564	59 8 –	15	3,960	49 10 –	12	4,752	39 12 –	13	10,296	42 18 –	33,696 5 8
1832	13	2,574	42 18 –	11	2,904	36 6 –	9	3,564	29 14 –	11	8,712	36 6 –	145 4 –
1833	13	2,574	42 18 –	11	2,904	36 6 –	9	3,564	29 14 –	11	8,712	36 6 –	145 4 –
1834	13	2,574	42 18 –	11	2,904	36 6 –	9	3,564	29 14 –	11	8,712	36 6 –	432,775 4 –
1835	13	2,574	42 18 –	11	2,904	36 6 –	9	3,564	29 14 –	11	8,712	36 6 –	146,665 4 –
1836	13 21,480	2,574 4,254,640	42 18 – 70,884 – –	11	2,904	36 6 –	9	3,564	29 14 –	11	8,712	36 6 –	497,719 4 –
TOTAL	21,711	4,300,378	71,646 6 –	210	55,440	693 – –	182	72,072	600 12 –	227	179,784	749 2 –	10,260,284 11 10

(A.) *continued.* ROYAL MINT.

Appendix, No. 35. Monies coined at the Mint, from 1816 to 1836.

COPPER.

DATE.	PENCE. Weight.	PENCE. Number of Pieces.	PENCE. Value.	HALFPENCE. Weight.	HALFPENCE. Number of Pieces.	HALFPENCE. Value.	FARTHINGS. Weight.	FARTHINGS. Number of Pieces.	FARTHINGS. Value.	Total Value of the Copper Coinage during the Year.
	Tons.		£. s. d.	*Tons.*		£. s. d.	*Tons.*		£. s. d.	£. s. d.
1816	—	—	—	—	—	—	—	—	—	—
1817	—	—	—	—	—	—	—	—	—	—
1818	—	—	—	—	—	—	—	—	—	—
1819	—	—	—	—	—	—	—	—	—	—
1820	—	—	—	—	—	—	12.5	2,688,000	2,800 – –	2,800 – –
1821	- -	- - -	- - -	- -	- - -	- - -	27.55	5,924,352	6,171 4 –	43,355 4 –
1822	118	6,872,320	26,432 – –	48	5,591,040	10,752 – –	11	2,365,440	2,464 – –	32,480 – –
1823	83	4,833,920	18,592 – –	51	5,940,480	11,424 – –	—	—	—	—
1824	—	—	—	—	—	—	20	4,300,800	4,480 – –	9,408 – –
1825	20	1,075,200	4,480 – –	2	215,040	448 – –	31	6,666,240	6,944 – –	50,400 – –
1826	110	5,913,600	24,640 – –	84	9,031,680	18,816 – –	11	2,365,440	2,464 – –	19,712 – –
1827	27	1,451,520	6,048 – –	50	5,376,000	11,200 – –	11	2,365,440	2,464 – –	2,464 – –
1828	- -	- - -	- - -	- -	- - -	- - -	7	1,505,280	1,568 – –	1,568 – –
1829	- -	- - -	- - -	- -	- - -	- - -	11	2,365,440	2,464 – –	2,464 – –
1830	- -	- - -	- - -	- -	- - -	- - -	12.5	2,688,000	2,800 – –	7,392 – –
1831	14	752,640	3,136 – –	6.5	698,880	1,456 – –	- -	- - -	- - -	448 – –
1832	1	53,760	224 – –	1	107,520	224 – –	—	—	—	—
1833	—	—	—	—	—	—	9	1,935,360	2,016 – –	3,136 – –
1834	3	161,280	672 – –	2	215,040	448 – –	8	1,720,320	1,792 – –	2,688 – –
1835	2	107,520	448 – –	2	215,040	448 – –	6	1,290,240	1,344 – –	1,792 – –
1836	1	53,760	224 – –	1	107,520	224 – –				
TOTAL	379	21,275,520	84,896 – –	247.5	27,498,240	55,440 – –	177.05	38,180,352	39,771 4 –	180,107 4 –

Note.—In the above account the gold is computed at the Mint price of 3 *l.* 17 *s.* 10 $\frac{1}{2}$ *d.* per oz. troy, or 46$\frac{2}{10}$ sovereigns to the pound weight troy.
The silver is computed at the Mint price of 5 *s.* 6 *d.* per oz., or at the rate of 66 *s.* to the pound weight troy.
The copper pence and halfpence for the years 1822 and 1823 are computed at the Mint price of 224 *l.* per ton, and at the rate of 26 pence to the pound weight avoirdupois, being Irish currency.
The copper coinage of pence and halfpence for the years subsequent to 1823, and all the farthings, are computed at the rate of 24 pence to the pound weight avoirdupois.

Mint Office, 24 June 1837.

Jas. W. Morrison, Deputy Master.
W. H. Barton, Comptroller.

(A.)
continued.
ROYAL MINT.

Appendix, No. 36.
Amount paid to the Company of Moneyers, from 1816 to 1837.

Appendix, No. 36.

A STATEMENT in detail of the Amount of 422,523 *l.* 0 *s.* 1½ *d.*, paid to the Company of Moneyers, from the Year 1816 to 31st March 1837; distinguishing the Amount paid for GOLD, SILVER and COPPER COINAGES (including Private Coinages) in each Year, and stating the Weight of the Monies coined.

ALSO, a STATEMENT in detail of the Sum of 142,902 *l.* 11 *s.* 8 *d.*, paid to the Melter, in the same period, for GOLD, SILVER and COPPER COINAGES (including Private Coinages), and other Services, in each Year.

Year.	DESCRIPTION of the COINAGE.	WEIGHT of the MONIES COINED.		Payments to the Moneyers under Rates allowed by the Indenture.	Payments to the Melter under Rates allowed by the Indenture.
		tons. cwt. qrs. lbs. oz.	*lbs. oz. dw. gr.*	£. *s.* *d.*	£. *s.* *d.*
1816	Silver coinage	- - - -	547,020 - - -	32,618 - -	7,065 1 8
	Maundy ditto	- - -	26 - - -	2 9 10	- 11 -
	Bank of England tokens	- - -	20,286 - - -	1,436 18 6	338 2 -
	Essequibo and Demerara tokens.	- - -	2,562 6 - -	184 16 7	42 14 2
	Refining silver	- - -	- - -	- - -	6,902 13 4
1817	Silver coinage	- - -	738,240 - - -	39,455 10 -	8,606 6 8
	Gold ditto	- - -	91,500 - - -	17,125 10 -	3,936 3 4
	Maundy ditto	- - -	32 - - -	3 5 9	- 14 6
	Ceylon copper coinage	11 - - - -	- - -	458 6 8	44 - -
	Refining silver	- - -	- - -	- - -	10,731 19 5
	Refining gold	- - -	- - -	- - -	5,396 6 -
	Melting old coins for assay.	- - -	- - -	- - -	3,427 19 3
1818	Silver coinage	- - -	174,600 - - -	8,746 17 6	1,934 6 8
	Gold ditto	- - -	61,260 - - -	11,271 15 -	2,613 15 -
	Maundy ditto	- - -	30 - - -	3 1 9	- 13 8
	Refining silver	- - -	- - -	- - -	402 18 2
	Refining gold	- - -	- - -	- - -	2,477 6 5
1819	Silver coinage	- - -	384,000 - - -	19,370 15 -	4,251 6 8
	Gold ditto	- - -	76 6 - -	13 7 9	3 3 9
	Maundy ditto	- - -	22 - - -	2 4 11	- 9 11
	Ionian copper ditto	77 - - - -	- - -	2,387 - -	410 13 4
	Refining silver	- - -	- - -	- - -	5,645 17 4
	Refining gold	- - -	- - -	- - -	2 8 6
1820	Silver coinage	- - -	256,860 - - -	13,159 10 2	2,868 16 11
	Gold ditto	- - -	20,321 - - -	3,515 5 7	834 12 9
	Maundy ditto	- - -	24 - - -	2 9 5	- 10 11
	Colonial dollar ditto	- - -	3,608 - - -	242 19 7	53 3 3
	Ionian copper ditto	122 - - - -	- - -	4,586 13 4	646 8 -
	Refining silver	- - -	- - -	- - -	932 12 9
	Refining gold	- - -	- - -	- - -	613 15 -
	Melting silver coin	- - -	- - -	- - -	751 7 1
1821	Silver coinage	- - -	131,400 - - -	6,327 7 5	1,389 3 1
	Gold ditto	- - -	203,761 - - -	35,066 7 6	8,333 14 9
	Maundy ditto	- - -	20 - - -	1 18 11	- 8 7
	Refining gold	- - -	- - -	- - -	1,563 13 -
	Refining silver	- - -	- - -	- - -	355 8 2
	Melting silver coin	- - -	- - -	- - -	425 5 2
1822	Silver coinage	- - -	9,464 - - -	405 15 5	90 3 6
	Gold ditto	- - -	114,645 - - -	19,661 12 4	4,681 6 9
	Maundy ditto	- - -	60 - - -	5 14 6	1 5 4
	Colonial silver	- - -	28,889 2 - -	1,747 14 -	380 9 2
	Copper farthings	43 1 - - -	- - -	1,668 15 -	213 12 -
	Copper for Ireland	166 - - - -	- - -	5,370 - -	885 6 8
	Refining gold	- - -	- - -	- - -	501 2 8
	Melting silver coin	- - -	- - -	- - -	74 1 5
1823	Gold coinage	- - -	16,260 - - -	2,890 - 6	673 8 6
	Silver ditto	- - -	86,400 - - -	3,854 9 3	851 15 7
	Maundy ditto	- - -	46 - - -	4 11 -	1 - 2

425

(A.) *continued.* ROYAL MINT.

Appendix, No. 36. Amount paid to the Company of Moneyers, from 1816 to 1837.

Year.	DESCRIPTION of the COINAGE.	WEIGHT of the MONIES COINED.		Payments to the Moneyers under Rates allowed by the Indenture.	Payments to the Melter under Rates allowed by the Indenture.
		tons. cwt. qrs. lbs. oz.	*lbs. oz. dw. gr.*	£. s. d.	£. s. d.
1823	Copper farthings	11 – – – –	– – –	458 6 8	58 13 4
	Copper for Ireland	134 – – – –	– – –	4,392 – –	714 13 4
	Refining silver	– – –	– – –	– – –	1,479 6 10
	Melting silver coin	– – –	– – –	– – –	539 16 10
1824	Gold coinage	– – –	87,000 – – –	15,229 18 9	3,586 16 1
	Silver ditto	– – –	85,440 – – –	4,682 4 4	1,011 13 10
	Maundy ditto	– – –	36 – – –	3 10 11	– 15 8
	Refining gold	– – –	– – –	– – –	57 5 –
	Refining silver	– – –	– – –	– – –	1,230 12 6
	Melting coin for assays	– – –	– – –	– – –	274 3 7
1825	Gold coinage	– – –	98,040 – – –	17,212 19 4	4,047 12 1
	Silver ditto	– – –	126,480 – – –	6,045 – 2	1,326 8 8
	Maundy ditto	– – –	46 – – –	4 7 –	– 19 3
	Copper, British	42 – – – –	– – –	1,524 13 4	224 – –
	Copper, colonial	9 – – – –	– – –	155 – –	26 13 4
	Refining gold	– – –	– – –	– – –	136 10 1
	Refining silver	– – –	– – –	– – –	134 5 –
	Melting silver coin	– – –	– – –	– – –	358 3 9
	Melting copper coin	– – –	– – –	– – –	191 8 7
1826	Gold coinage	– – –	126,195 – – –	21,823 5 1	5,173 1 2
	Silver ditto	– – –	184,380 – – –	9,483 4 4	2,061 6 1
	Maundy ditto	– – –	46 – – –	4 7 –	– 19 2
	Refining gold	– – –	– – –	– – –	84 8 4
	Refining silver	– – –	– – –	– – –	1,411 13 1
	Copper coinage, British	225 – – – –	– – –	7,697 13 4	1,200 – –
	Copper coinage, East India.	100 – – – –	– – –	3,940 – –	533 6 8
	Melting silver coin	– – –	– – –	– – –	459 – 5
	Melting copper coin	– – –	– – –	– – –	1,133 8 4
1827	Gold coinage	– – –	53,775 – – –	9,480 8 –	2,224 9 10
	Silver ditto	– – –	9,960 – – –	582 4 10	125 8 10
	Maundy ditto	– – –	46 – – –	4 5 7	– 19 –
	Copper coinage, British	90 4 2 16 –	– – –	3,232 13 8	481 4 9
	Refining gold	– – –	– – –	– – –	29 17 3
	Refining silver	– – –	– – –	– – –	16 7 –
	Melting old copper coin.	– – –	– – –	– – –	17 2 11
1828	Gold coinage	– – –	21,585 – – –	4,354 10 2	953 18 3
	Silver ditto	– – –	4,889 – – –	253 14 4½	55 1 7
	Maundy ditto	– – –	46 – – –	4 5 7	– 19 –
	Copper coinage, British	15 10 – – –	– – –	705 16 8	82 13 4
	Refining gold	– – –	162 – 9 6	– – –	67 10 4
	Melting silver coin	– – –	360 4 15 –	– – –	2 – –
	Melting Ionian copper coin.	151 1 2 17 14	– – –	– – –	836 16 11
1829	Gold coinage	– – –	52,365 – – –	8,982 16 1	2,138 9 8
	Silver ditto	– – –	32,760 – – –	1,628 15 4	357 4 4
	Maundy ditto	– – –	46 – – –	4 5 7	– 19 –
	Copper ditto	7 – – – –	– – –	291 13 4	37 6 8
	Melting gold	– – –	441 11 9 12	– – –	7 7 2
1830	Gold coinage	– – –	51,105 – – –	8,760 15 7	2,086 15 9
	Silver ditto	– – –	46 – – –	4 5 7	– 19 –
	Copper ditto	14 – – – –	– – –	623 6 8	74 13 4
	Melting ditto	– – –	9,643 5 – –	– – –	257 4 7
1831	Gold coinage	– – –	12,810 – – –	2,191 13 3	523 1 6
	Silver ditto	– – –	10,152 11 19 –	685 2 10	153 3 11
	Copper ditto	34 9 2 – –	– – –	1,267 15 10	183 17 4
	Maundy ditto	– – –	58 – – –	—	
	Re-melting gold	– – –	– – –	– – –	9 5 8
1832	Gold coinage	– – –	79,980 – – –	13,711 6 6	3,264 12 –
	Silver Maundy ditto	– – –	44 – – –	4 4 9	– 18 8
	Demerara silver ditto	– – –	2,192 4 10 –	160 13 4	35 16 3
	Copper coinage	2 – – – –	– – –	66 13 4	10 13 4

(*continued*)

(A.)
continued.
ROYAL MINT.

Appendix, No. 36.
Amount paid to the Company of Moneyers, from 1816 to 1837.

Year.	DESCRIPTION of the COINAGE.	WEIGHT of the MONIES COINED. *tons. cwt. qrs. lbs. oz.*	*lbs. oz. dw. gr.*	Payments to the Moneyers under Rates allowed by the Indenture. £. s. d.	Payments to the Melter under Rates allowed by the Indenture. £. s. d.
1832	Melting dollars	- - -	1,762 3 10 -	- - -	9 15 9
	Refining brittle gold	- - -	1,646 5 16 -	- - -	411 12 5
1833	Gold coinage	- - -	26,223 - - -	4,492 2 -	1,069 10 6
	Silver Maundy ditto	- - -	44 - - -	4 3 1	- 18 4
	Demerara silver ditto	- - -	1,695 1 - -	155 10 4	27 13 4
1834	Gold coinage	- - -	1,432 - - -	315 8 9	66 6 4
	Silver and Maundy ditto.	- - -	130,784 - - -	7,416 15 3	1,626 - 1
	Jamaica silver ditto	- - -	- - -	315 19 4	70 4 4
	British copper ditto	14 - - - -	- - -	539 6 8	74 13 4
	Portugal silver ditto	- - -	- - -	1,449 3 7	378 14 8
	Ionian silver ditto	- - -	- - -	25 19 8	5 15 6
	Ionian copper ditto	- - -	- - -	573 6 8	53 6 8
1835	Gold coinage	- - -	23,749 - - -	4,471 12 3	1,013 8 3
	Silver ditto	- - -	44,400 - - -	2,505 12 5	546 16 11
	West India silver ditto	- - -	- - -	306 9 11	68 2 3
	Maundy ditto	- - -	44 - - -	4 3 1	- 18 5
	Copper ditto	12 - - - -	- - -	466 13 4	64 - -
	Ionian copper ditto	- - -	- - -	321 1 4	29 17 4
	Malta copper ditto	- - -	- - -	155 5 -	12 - -
	Demerara ditto	- - -	- - -	128 4 5	22 16 9
1836	Gold coinage	- - -	38,261 - - -	6,635 16 9	1,570 6 -
	Silver ditto	- - -	129,300 - - -	8,307 19 1	1,811 8 11
	West India silver	- - -	- - -	170 10 5	37 17 11
	Maundy silver	- - -	44 - - -	4 3 1	- 18 4
	Copper coinage	8 - - - -	- - -	316 13 4	42 13 4
	Ionian copper	- - -	- - -	172 - -	16 - -
	Demerara, Guiana	- - -	- - -	368 12 10	65 10 8
	Refining	- - -	- - -	- - -	513 2 2
	Melting dollars	- - -	- - -	- - -	85 5 7
1837	Gold coinage	- - -	2,743 4 9 4	470 14 -	112 - 10
	Silver ditto	- - -	18,300 - - -	1,009 17 10	220 11 8
	Maundy ditto	- - -	44 - - -	4 3 1	- 18 4
	Copper ditto	- - -	- - -	166 13 4	21 6 8
		TOTAL - - - £.		422,523 - 1½	142,902 11 8

Mint Office,
24 June 1837.

Jas. W. Morrison, Dep. Master.

Note.—For the denominations of the Monies coined, and the number of Pieces coined in each Year, see the Account of Gold, Silver and Copper Monies coined from 1816 to 31st December 1836, rendered herewith.

A STATEMENT of the Manner in which the MASTER'S FEES, received from the 10th October 1815 to the 5th April 1837, have been Appropriated.

Note.—The following Statement has been made out from the Receiver's Accounts, as declared from the 10th October 1815 to the 5th April 1837, it being directed (pursuant to the Act) that the Account shall be laid before the Treasury annually on the 10th October. The £. 152,884. 13 *s.* 9 *d.* was computed from 1st January 1816, to agree with the period of the other Accounts rendered.

DATE of the ACCOUNT.	RECEIPTS.		APPROPRIATIONS.						
	Total Fees collected, including Sums payable to the Meltings, and Contingencies under arrangements previous to the Year 1816.	Deficiencies granted out of the Consolidated Fund for the Payment of the Salary when the Fees were insufficient.	Salary Paid to the Master.	Taxes charged on the Salary.	Treasury and Exchequer Fees, and Expenses and Stamps.	Sums paid out of Fees collected previous to 1816.		OTHER PAYMENTS.	Payments into the Exchequer for the Consolidated Fund.
						For the Meltings.	For contingent Expenses.		
	£. *s.* *d.*	£. *s.* *d.*	£. *s.* *d.*	£. *s.* *d.*	£ *s.* *d.*	£. *s.* *d.*	£. *s.* *d.*	£. *s.* *d.*	£. *s.* *d.*
From 10 Oct. 1815 to 10 Oct. 1816	6,135 9 2	236 10 3	3,000 – –	222 15 8	3 12 –	1,035 1 10½	– – –	– Balance due to Receiver on his account, 10 Oct. 1815, 5 5 – –	2,105 4 11
1817	22,213 12 11	– – –	3,000 – –	222 15 8	– – –	– – –	– – –	– – – –	18,990 17 3
1818	19,107 4 9½	– – –	3,000 – –	222 15 8	2 12 6	– – –	13,910 10 –	– – – –	1,971 6 7½
1819	6,726 8 5	– – –	3,000 – –	222 15 8	3 10 –	– – –	– – –	– – – –	3,500 2 9
1820	4,221 14 2	– – –	3,000 – –	222 15 8	2 19 –	– – –	– – –	– – – –	995 19 6
1821	18,374 3 2	– – –	3,000 – –	222 15 8	3 11 6	– – –	– – –	– Paid Mr. Barton, by Treasury order, for drawbench, 500 – –	14,647 16 –
1822	13,904 7 10	– – –	3,000 – –	222 15 8	3 8 6	– – –	– – –	– – – –	10,678 3 8
1823	3,569 9 4	– – –	3,000 – –	222 15 8	2 18 6	– – –	– – –	– – – –	343 15 2
1824	6,195 14 –	– – –	3,000 – –	222 15 8	2 1 –	– – –	– – –	– – – –	2,970 18 1
1825	11,214 19 11	– – –	3,000 – –	222 15 8	1 12 6	– – –	– – –	– – – –	7,990 11 9½
1826	13,663 3 8½	– – –	3,000 – –	222 15 8	1 15 –	– – –	– – –	– Error in payment into Exchequer, – 5 5	10,438 7 7½
1827	8,989 17 5½	– – –	3,000 – –	222 15 8	2 1 –	– – –	– – –	– – – –	5,765 – 9½
1828	1,168 18 8½	2,063 3 5	3,000 – –	222 15 8	13 14 –	—	—	—	
1829	4,376 – 3¾	– – –	3,000 – –	222 15 8	3 12 –	– – –	– – –	– – – –	1,145 5 1¼
1830	6,381 19 11½	– – –	3,000 – –	222 15 8	– 19 –	– – –	– – –	– – – –	3,158 5 3½
1831	835 17 –	1,781 13 4	2,500 – –	222 15 8	14 15 –	—	—	—	
1832	6,285 5 5	224 15 3	2,000 – –	222 15 8	5 17 –	– – –	– – –	– – – –	4,162 – 8
1833	3,946 11 5	– – –	2,000 – –	222 15 8	2 – 6	– – –	– – –	– – – –	1,721 14 3
1834	1,771 14 9	325 10 8	1,998 12 2	222 15 8	4 18 6	—	—	—	
1835	2,404 12 10	535 4 –	2,000 – –	222 15 8	1 14 –	– – –	– – –	– – – –	585 14 3
1836	4,138 2 3	– – –	2,000 – –	222 15 8	1 11 6	– – –	– – –	– – – –	1,913 15 1
to 5 April 1837	2,557 1 4	– – –	2,000 – –	222 15 8	– 15 –	– – –	– – –	– – – –	1,444 18 6
£.	168,182 8 10¼	5,166 16 11	58,498 12 2	4,789 16 10	79 18 –	1,035 1 10½	13,910 10 –		94,529 17 4

(A.)
continued.
ROYAL MINT.

Appendix, No. 37.
Manner the Master's Fees have been appropriated.

ABSTRACT ACCOUNT.

Monies received.	£.	s.	d.	*Monies applied.*	£.	s.	d.
Total Fees collected - -	168,182	8	10¼	Salary paid to the Master -	58,498	12	2
Deduct, applied to the Meltings - - 1,035 1 10½				Taxes charged thereon -	4,789	16	10
Ditto, ditto to Contingencies - 13,910 10 -				Treasury and Exchequer Fees and Stamps - - -	79	18	-
	14,945	11	10½	Paid Mr. Barton, remuneration for the invention of the Drawbench, by Treasury authority - - -	500	-	-
Leaving the Master's Fees - - -	153,236	16	11	Balance due to Receiver on his Account, 10 Oct. 1815	5	5	-
Deficiency in the Fees for payment of Salary granted out of the Consolidated Fund - - - -	5,166	16	11	An Error in payment into Exchequer, 1820 - -	-	5	5
					63,873	17	5
				Surplus paid into the Exchequer for the use of the Consolidated Fund - -	94,529	17	4
					158,403	14	9
				Deduct Clerical Error	-	-	11
£.	158,403	13	10	£.	158,403	13	10

Mint Office, 24 June 1837.

Jas. W. Morrison,
Receiver of Fees arising to the Office of the Master and Warden of the Mint.

Appendix, No. 38.
Manner the Surplus Rates on Coinage have been appropriated.

Appendix No. 38.

A STATEMENT of the Manner in which the SUM of £. 71,704. 4 *s.* 4 *d.* as SURPLUS RATES on COINAGE, after paying the Moneyers, Melter, Master's Fees and Officers' Allowances on Private Coinage, has been appropriated, from 1816 to 5 April 1837.

Dr.

		£.	s.	d.	£.	s.	d.
1816 to 1837	* Total Surplus Rates, as rendered in former Statement to the Committee (taken from Mr. Morrison's book) - - - - -				71,704	4	4
	Deduct allowance to Officers on Private Coinages, erroneously included in the above Sum, viz.:						
	Bank Token Coinage, in 1816 - - - -	169	1	-			
	Essequibo and Demerara ditto, in 1816 - - -	21	7	1			
	East India Copper Coinage, in 1825 - - -	350	-	-			
	And Clerical Errors, supposed in Mr. Morrison's Account, diffused through 20 years - - -	35	13	-			
					576	1	1
				£.	71,128	3	3

* The above Statement of 71,704 *l.* 4 *s.* 4 *d.* has been made out from a book kept by Mr. Morrison for his own private use. It contains all the fractional sums composing the several heads of service, of the charges to the moneyers, melter, master's fees and officers' allowances on private coinages, in each year. As the book is not checked or examined, the above difference of 35 *l.* 13 *s.* is supposed to arise from clerical errors.

(A.)
continued.
ROYAL MINT.

Appendix, No. 38.
Manner the Surplus Rates on Coinage have been appropriated.

Cr.

Sums carried to the credit of the Public, in the Master's General Cash Account, (as Surplus Rates on Coinage,) and appropriated in aid of Contingent Expenses, viz:

Date.		£. s. d.	£. s. d.
1816	Charged to Master's Account - - - -	13,910 10 –	
1817	Ditto - - - - - - - -		
1818	Ditto - - - - - - - - -	3,024 – 7	
1819	Ditto - - - - - - - - -	3,085 4 5	
1820	Ditto - - - - - - - - -	2,916 5 5	
1821	Ditto - - - - - - - - -	7,387 11 11	
1822	Ditto - - - - - - - - -	5,068 3 2	
1823	Ditto - - - - - - - - -	2,047 3 7	
1824	Ditto - - - - - - - - -	2,065 5 5	
1825	Ditto - - - - - - - - -	5,909 2 –	
1826	Ditto - - - - - - - - -	5,360 12 8	
1827	Ditto - - - - - - - - -	4,047 6 6	
1828	Ditto - - - - - - - - -	857 17 8	
1829	Ditto - - - - - - - - -	1,936 12 4	
1830	Ditto - - - - - - - - -	1,636 8 8	
1831	Ditto - - - - - - - - -	464 – 10	
1832	Ditto - - - - - - - - -	2,752 6 2	
1833	Ditto - - - - - - - - -	842 15 8	
1834	Ditto - - - - - - - - -	1,629 14 3	
1835	Ditto - - - - - - - - -	1,449 17 11	
1836	Ditto - - - - - - - - -	2,253 10 6	
1837	Ditto - - - - - - - - -	1,283 10 11	
			69,928 – 7

Sums retained out of the Charge of Coinage made for Colonial Coinages, carried on at the Mint, (as surplus,) appropriated to the payment of Contingent Expenses, viz.:

1817	Ceylon Copper Coinage - - - - - -	77 – –	
1819	Ionian Copper Coinage - - - - - -	1,123 2 8	
			2,200 2 8
		£.	71,128 3 3

Mint Office, 24 June 1837.

Jas. W. Morrison,
Deputy Master.

Appendix, No. 39.

Appendix, No. 39.
Receipts, Disbursements and Profit on melting.

AN ACCOUNT of RECEIPTS, DISBURSEMENTS and NET PROFIT on melting for Coinage, with the Amount in Weight and Value, for which the Melter has been responsible, from the Year 1828 to 1836, inclusive.

—	RECEIPTS.	DISBURSEMENTS.	LOSS.	PROFIT.
	£. s. d.	£. s. d.	£. s. d.	£. s. d.
1828 - - -	1,931 11 –	1,577 19 4	- - -	353 11 8
1829 - - -	2,517 19 8	1,040 5 2	- - -	1,477 14 6
1830 - - -	2,162 8 1	1,009 17 11	- - -	1,152 10 2
1831 - - -	867 18 –	951 19 10	84 1 10	—
1832 - - -	3,321 15 7	878 6 7	- - -	2,443 9 –
1833 - - -	1,104 15 6	688 5 4	- - -	416 10 2
1834 - - -	2,342 4 4	761 1 –	- - -	1,581 3 4
1835 - - -	1,786 – –	1,432 14 10	- - -	353 5 2
1836 - - -	3,719 8 6	1,573 – 8	- - -	2,146 7 10
£.	19,754 – 8	9,913 10 8	84 1 10	9,924 11 10
			Deduct loss - -	84 1 10
			Net Profit - £.	9,840 10 –

		Lbs. oz. dwts.		£. s. d.
From 1829 to 1836.	Gold melted -	608,245 8 19	77/10½. per oz.	28,420,282 9 6
—	Silver ditto -	788,275 4 18	5s. ditto - -	2,364,826 4 6
—	Copper ditto -	288 tons -	£. 85 per ton -	24,480 – –
			£.	30,809,588 14 –

G. F. Mathison, Melter and Refiner.

(A.)
continued.
ROYAL MINT.

Appendix, No. 40.
Gold Monies melted by the Bank since 1816.

Appendix, No. 40.

AN ACCOUNT of GUINEAS, HALF-GUINEAS and SEVEN SHILLING PIECES melted by the Bank of *England* since the Year 1816.

	£.
1825	4,155,000
1826	56,000
1828	1,260,000
1829	210,700
1830	210,000
1831	224,000
1832	203,000
1833	210,000
1834	110,000
1835	105,000
1836	106,442
1837	14,000
£.	6,864,142

Bank of England, 11 July 1837.

M. Marshall, Chief Cashier.

Appendix, No. 41.

Appendix, No. 41.
Gold Ingots imported, 1816–1835.

A RETURN of the Number of GOLD INGOTS imported by the Bank of England into the Master's Assay Office, in the Royal Mint, for Coinage, from the Year 1816 to the Year 1835 inclusive; together with the Difference of the Master's Assayer's Report and the Importer's Assay.

Years.	Total Number of Ingots imported.	The Number of Ingots in each Year on which ¼ car. gr. has been allowed on an Average, supposing each Ingot to be of the Weight of 15 lbs. Troy.	Amount of Allowance in Pounds Troy on the Importations of each Year.	Value of the Allowance at 3*l.* 17*s.* 10½*d.* per oz.	
			lbs. oz. dts. grs.	£. *s.* *d.* Pts.of 960.	
1816	nil.	nil.	nil.	nil.	
1817	8,167	3,675	143 6 13 3	6,707 11 10. 15	
1818	2,618	1,178	46 – 3 18	2,150 1 7. 210	
1819	nil.	nil.	nil.	nil.	
1820	716	322	12 6 19 –	587 15 2. 744	
1821	15,114	6,801	265 7 19 9	12,413 3 –. 765	
1822	5,728	2,577	100 7 19 9	4,703 10 6. 765	
1823	813	365	14 3 12 –	666 4 4. 912	
1824	6,395	2,877	112 4 12 –	5,251 2 2. 672	
1825	5,244	2,359	92 1 15 15	4,305 12 8. 555	
1826	9,075	4,083	159 5 18 3	7,452 5 5. 375	
1827	2,031	913	35 7 19 9	1,666 8 –. 765	
1828	1,508	678	26 5 16 6	1,237 9 7. 510	
1829	1,060	477	18 7 12 –	870 12 10. 192	
	58,469	26,305	1,027 6 10 –	48,011 17 8. 60	
1830	296	133	2 7 3 10	121 7 5. 138	From this period, 1829, the allowance on each ingot was only one-eighth of a carat grain, or 7½ grains troy.
1831	831	373	7 3 8 10	340 7 10. 498	
1832	4,788	2,154	42 – 16 21	1,965 14 8. 465	
1833	1,619	728	14 2 12 12	664 7 5. 60	
1834	91	40	– 9 7 22	36 11 8. 390	
1835	1,418	638	12 5 10 15	582 4 8. 720	
	67,512	30,371	1,106 11 9 18	51,722 11 7	

J. M. Beckwith, Master's Assay Master.

Note.—This return shows the profit which the Bank has derived upon the coinage during 20 years, amounting to 51,722 *l.* 11 *s.* 7 *d.*

Appendix, No. 42.

(A.) *continued.* ROYAL MINT.

Appendix, No. 42. Papers relating to the New Standard Trial Plates.

PAPERS relating to the NEW STANDARD TRIAL PLATES.

My Lords, Great George-street, 23 January 1829.

I HAVE the honour of submitting to the consideration of your Lordships the statement herewith transmitted (Papers A. & B.), on the subject of the trial plates now used in the assaying of silver coin and bullion at the Mint and Exchequer, and of all wrought silver goods by the Goldsmiths' Company. Your Lordships will perceive that the plate now in use (made a great many years ago) is materially inaccurate, being finer than the standard. Much inconvenience and embarrassment have arisen out of this circumstance (not hitherto known to any one, except the King's assay master at the Mint) in the manufacture and trial of silver money at the mints of the East India Company in India. In consequence of a communication on that subject from the chairs, through the Secretary of State for the Home Department, to the Master of the Mint, (which led to the disclosure of the fact,) after a new trial plate had been ordered by your Lordships to be made by the Goldsmiths' Company, it was judged expedient to suspend the final execution of it until some further directions might be obtained by your Lordships, with a view to the adoption of such measures as might appear to be best calculated for preventing the recurrence of any error in the preparation of the trial pieces in future.

I beg leave to state to your Lordships that it has appeared to me, and to the experienced officers of the Mint, with whom I have communicated on this subject, that the object thus sought to be obtained would be effectually secured if the Goldsmiths' Company were to be checked, in the formation of all trial pieces in future, by the King's and Master's assay master at the Mint.

This might be effected by a direction to the Goldsmiths' Company to submit the metal prepared for the formation of the plate, during the progress of the work, to the assays of each of those officers, so as not to proceed to the completion of it until they should severally concur with the Goldsmiths' Company as to its possessing the requisite degree of fineness; and, in order that such concurrence may be duly authenticated, I beg leave to suggest that before any plate is authorised by your Lordships to be used as a trial piece, it should be certified under the hands of the officers above mentioned, (through the Master of the Mint,) that it had been found upon trial to be exactly conformable to the standard prescribed by the law.

I would recommend that the same direction should be given for the gold as for the silver trial piece; but I have the satisfaction of stating, at the same time, that the plate now in use as a trial piece for gold is represented by the King's assay master to be sufficiently accurate, the variation from the legal standard being so slight in degree as not to occasion any sensible error, either in the preparation or assay of the gold coin, which is perfectly correct.

I have, &c.

The Right Hon. the Commissioners of His Majesty's Treasury. (signed) *J. C. Herries.*

PAPER (A.)

TRIAL PIECES (or Plates) of Gold and Silver.

THE assay of gold and silver coin, bullion and wrought plate, is made at the Mint and at Goldsmiths' Hall, by means of certain plates of those metals prepared by the Goldsmiths' Company under the authority of the Treasury.

These plates are directed to be alloyed so as to conform exactly to the standards for gold and silver coin established by law in these realms.

They are prepared from time to time, as they are wanted, in pursuance of the orders from the Lords of the Treasury to the Goldsmiths' Company. A statement of the dates at which they have been so prepared, both for gold and silver, will be found in the answer of the King's assay master to the queries of the Master of the Mint hereunto annexed (Paper (B).

They are termed trial pieces, and are lodged at the Mint, the Exchequer, and Goldsmiths' Hall. Copies of them, or pieces of metal of precisely the same degree of fineness, are made use of in the several provincial assay offices, and also by the private refiners who assay bullion for the dealers in that commodity. In the mints of the East India Company in India, fac similes of the same plates are also employed in the assay of the monies coined there. In the trial of the coins of the realm before the Privy Council, called the "Trial of the Pyx," by a jury of goldsmiths, these plates are the test by which the verdict is governed.

The trial is made by subjecting a minute portion of the plate, and of the coin, bullion or wrought plate intended to be assayed, to the same process, and at the same time, for separating the alloy from the precious metal. The result shows whether the article subjected to the assay is more or less fine than the plate, and in what degree.

It is obvious that, in the employment of this method, the accuracy of the plate itself is of the utmost importance, because the trial does not determine immediately the relative fineness of the subject assayed to the standard of the realm, but only to the trial piece, which is presumed to be exactly conformable to that standard.

The trial plate of silver now in use (made in the year 1728) being nearly consumed, and the Treasury having directed a new one to be prepared, the King's assay master at the Mint, Mr. Bingley, considered it to be his duty to represent to the Master of the Mint that this

(A.) *continued.* ROYAL MINT.

Appendix, No. 42. Papers relating to the New Standard Trial Plates.

plate is materially inaccurate, inasmuch as it contains at the rate of 11 oz. 3 ¼ dwt. full, instead of 11 oz. 2 dwt. only of fine silver in the pound weight, being therefore 1 ¼ dwt. in the pound weight finer than the legal standard. In consequence of this error, the silver coin of the realm has been in the same proportion finer than the law required since this plate has been in use. The difference is equivalent to about one half per cent on the value.

It is stated by Mr. Bingley that this fact has long been known to him and his predecessors, the King's assay masters at the Mint, and is recorded in their private books. But the discovery having been made at a time when the silver coin was an essential part of the circulating medium of the kingdom, and a legal tender either by tale or weight for large sums, it was thought that the disclosure of this error might be productive of much public inconvenience, by occasioning the destruction of the silver coin, for the profit of one half per cent. to be obtained by melting it. It was therefore determined not to publish the discovery; and, although the circumstances which induced this precaution have long since ceased to exist, it has remained a secret confined to the office of the King's assay master at the Mint until the present time.

Independently of the propriety of now making this communication, with reference to the formation of a new trial plate of silver, it has become necessary to take some step upon the subject, on account of serious difficulties and inconveniences which have arisen in the mints of the East India Company out of the error in our trial plate, on which their officers have relied.

The officers of those mints have been unable to make the fineness of their coin, according to the assay of it, correspond with the value of the materials employed in the preparation of it; and after a great variety of fruitless experiments to produce an agreement in that respect, the subject has been referred, through the Secretary of State, to the Master of the Mint. The solution of these difficulties is the discovery of the error in our trial piece, and the remedy will be found in the rectification of it; for the officers of the Company, having relied entirely on the presumed accuracy of our plate, have invariably found, upon the assay of their coin by that test, that it was worse than it ought to be, whereas the coin was in truth sufficiently correct, the plate itself being finer than it should have been.

In order to obviate the recurrence of these and similar inconveniences, and to insure the most exact assay, not only of the silver coin, but of all wrought plate and bullion, (whether for the purpose of duty, or for transfer in the market,) measures should now be taken to secure the greatest possible accuracy in the formation of the trial pieces hereafter, by imposing some additional check upon the preparation of them.

It is unquestionably right in principle, that these standard measures of the value of our coin should rather be prepared by an independent company than by the officers of the Mint; but it would be no infringement of that principle if the operations of the company, in the execution of this duty, were subjected to a check by the officers of the Mint.

The Goldsmiths' Company are a highly honourable and skilful body of men; but as it is fully proved by experience that in a work of so much delicacy (for such it is represented to be) as the preparation of a standard plate, they are not exempt from a liability to error, it appears to be most expedient that the concurrence of some persons of the greatest skill and experience in the art of assaying, unconnected with them by office or by interest, should be resorted to as the test of perfect accuracy upon which the public might fully rely.

There are two assay masters at the Mint, one who acts for the King, and one for the master of the Mint. These officers possess in the highest degree, by their experience, their skill and their reputation with the public, the qualifications required for the exercise of such a check upon the Goldsmiths' Company; and the nature of their offices is such that no persons not so qualified could for any time continue to fill them.

It may, therefore, be safely concluded, that if in future every trial piece of gold or of silver prepared by the Goldsmiths' Company were subjected to the assay and approval of each of those officers, the assay master of the King, and of the master of the Mint, before it were used as such, there would be no danger of the slightest deviation in any trial piece hereafter to be made, from the precise degree of fineness required by the law.

PAPER (B.)

Queries submitted by the Master of the Mint to the King's Assay Master, with his Answers.

What are the dates at which new trial plates have been made?

1660, 1688, 1707, 1728.

In what degree have the several trial plates made in the last 150 years differed, if at all, from the exact legal standard?

The gold trial plates of 1660 and 1688 were not sufficiently fine, and those of 1707 and 1728 were too fine, or better than standard.

The silver of 1660 and 1688 quite near the right standard; that of 1707, ¼ dwt. too fine, and the plate of 1728, near 1 ¼ dwt. better than standard.

These minute differences are only known in the King's Assay Office.

How is the difference recorded? By what proof, or documents, or tradition at the Mint?

By recorded experiments in the private books of the King's assay master.

Whether

433

(A.)
continued.
ROYAL MINT.

Appendix, No. 42.
Papers relating to the New Standard Trial Plates.

Whether the trial plate for the coinage is the standard by which the fineness of silver is assayed and attested by the Goldsmiths' Company for merchants and manufacturers, and according to which the stamp is affixed to silver goods?

Yes, the faulty trial plate of 1728 governs all these establishments, manufactures, stamps, &c.

Sir, Treasury Chambers, 17 February 1829.

HAVING laid before the Lords Commissioners of His Majesty's Treasury your letter of the 23d ultimo, transmitting papers relative to inaccuracies in the trial plates now used in the assaying of gold and silver coin and bullion at the Mint and Exchequer, and of all wrought silver goods to the Goldsmiths' Company, I am commanded by their Lordships to acquaint you that they are of opinion that immediate steps should be taken for remedying the defect, and for securing, as far as is possible, the greatest degree of accuracy in the formation of the new trial plates, which they have given directions to the Goldsmiths' Company to prepare.

To effect this purpose, my Lords concur in your suggestion, that, in the progress of the manufacture of the new trial plates, directions should be given to the Goldsmiths' Company to consult from time to time with the Master of the Mint, and the King's and Master's assay officers, and to submit the metal to their examination, so as to ensure, by the joint endeavours of all the most experienced persons employed in the assay of metals, both at the Mint and in the employ of the Goldsmiths' Company, the greatest accuracy as to its possessing the requisite degree of fineness according to the standard established by law; and in order to secure an authenticated proof of such concurrence, my Lords are further pleased to direct that, before any plate be authorised to be used as a trial plate, a certificate signed by the King's and Master's assay officers on the one part, and by the warden of the Goldsmiths' Company, or proper person to be deputed by him, on the other, be sent, through you, to this Board, signifying that, upon trial, the plate had been found exactly conformable to the standard established by law. My Lords are further pleased to direct that these regulations should apply to the trial plates both of gold and silver coin and bullion.

I have, &c.

The Master of the Mint. (signed) *G. R. Dawson.*

Sir, Mint Office, 20 February 1829.

I AM directed by the Master of the Mint to call your attention to a letter which has been received by him from the Lords Commissioners of His Majesty's Treasury, dated 17th instant, containing their Lordships' instructions in respect to securing, as far as it is possible, the greatest degree of accuracy in the formation of the new trial plates; and I am desired to state to you, that it is of the most essential consequence that, in conjunction with Mr. Beckwith, you should immediately communicate with the proper officers of the Goldsmiths' Company for taking measures for the execution and completion of the trial plate with all possible expedition.

I am, &c.

R. Bingley, Esq., &c. &c. &c. (signed) *J. W. Morrison.*

Sir, Mint Office, 23 February 1829.

IN pursuance of the commands of the Lords Commissioners of His Majesty's Treasury, signified to the office, and also to the Goldsmiths' Company, in respect to the formation of the new trial plate of gold and silver, I am directed by the Master of the Mint to beg you will impress upon the warden of your Company, that it is essentially necessary that no time should be lost in executing the plates; and I am to inform you that he has given directions to the King's and Master's assayer at this office to communicate with the assayer of the Goldsmiths' Company, for the formation of the plates as speedily, and with every degree of accuracy possible.

I am, &c.

John Lane, Esq., &c. &c. &c., Goldsmiths' Hall. (signed) *Jas. W. Morrison.*

Sir, Treasury Chambers, 6 April 1829.

I AM commanded by the Lords Commissioners or His Majesty's Treasury to acquaint you that they have appointed Thursday next, the 9th instant, at one o'clock in the afternoon, for administering the oath before their Lordships to the jury returned by the Goldsmiths' Company to prove the quality of the new gold and silver trial plates.

I am, &c.

The Master of the Mint. (signed) *J. Stewart.*

(A.)
continued.
ROYAL MINT.

Appendix, No. 42.
Papers relating to the New Standard Trial Plates.

Memorandum, 6 May 1829.

Mr. Eyre, Mr. Hayter, Mr. Johnson, Mr. Miles, Mr. P. Johnson, deputed by the Goldsmiths' Company, attended the Board, when the rolled plates from the ingots of gold and silver prepared for the new trial plates were produced, and pieces being cut from each end of the respective plates, were delivered to Mr. Bingley, the King's assay master, and to Mr. Beckwith, the Master's assayer, to be assayed by them.

To the Lords Commissioners of His Majesty's Treasury, &c. &c. &c.

My Lords, Royal Mint, 26 January 1830.

IN conformity with the directions contained in Mr. Stewart's letter to me of the 17th February last, I have the honour to transmit to your Lordships the enclosed certificates, signed by the King's and the Master of the Mint's assay masters, in reference to your Lordships' regulations for securing the greatest degree of accuracy in the formation of the new trial plates of gold and silver.

I have, &c.
(signed) *J. C. Herries.*

GOLD.

We, the undersigned, having received from a jury of the Goldsmiths' Company, sworn before the Lords Commissioners of His Majesty's Treasury on the 8th day of April 1829, certain indented trial pieces of gold, directed by their Lordships to be prepared by the said jury, to be used in the assaying of gold coin and bullion at the Mint and Exchequer, and for all wrought goods at the Goldsmiths' Hall, hereby certify that we have examined the said indented trial pieces of gold, and have found the same to possess the requisite degree of fineness, and to be duly commixed of fine metal and alloy, according to the standard established by law.

(signed) *Robert Bingley,*
His Majesty's Assay Master.
John Malebysse Beckwith,
Master's Assay Master.

Royal Mint, 26 Jan. 1830.

The above certificate having been given in obedience to the commands of the Lords Commissioners of His Majesty's Treasury, conveyed to me in their letter, dated the 17th February 1829, I have (in order to identify the certificate with the trial pieces to which it relates) caused an exact copy of the inscription placed thereon to be inserted in the margin of this certificate; and I have also caused the several trial pieces to be stamped with the impression hereunto affixed from the die now in use at His Majesty's Mint, for the half sovereign of gold.

(signed) *J. C. Herries.*

Royal Mint, 26 Jan. 1830.

Goldsmiths' Hall, London.
This Standard, commixed of 22 Carats of fine Gold and 2 carats of Alloy in the Pound Weight Troy of Great Britain, was made the 31st day of October 1829.

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.

Goldsmiths' Hall, London.

This Standard, commixed of 11 *ounces* 2 *pennyweights of fine Silver, and* 18 *pennyweights of Alloy in the Pound Weight Troy of Great Britain, was made the* 31*st day of October* 1829.

1.

2.

3.

4.

5.

6.

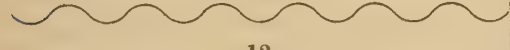
7.

8.

9.

10.

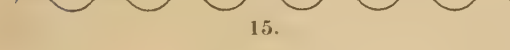
11.



12.

13.

14.



15.

SILVER.

We, the undersigned, having received from a jury of the Goldsmiths' Company, sworn before the Lords Commissioners of His Majesty's Treasury on the 8th day of April 1829, certain indented trial pieces of silver, directed by their Lordships to be prepared by the said jury, to be used in the assaying of silver coin and bullion at the Mint and Exchequer, and for all wrought goods at the Goldsmiths' Hall, hereby certify that we have examined the said indented trial pieces of silver, and have found the same to possess the requisite degree of fineness, and to be duly commixed of fine metal and alloy, according to the standard established by law.

(signed) *Robert Bingley,*
His Majesty's Assay Master.
John Malebysse Beckwith,
Master's Assay Master.

Royal Mint, 26 Jan. 1830.

The above certificate having been given in obedience to the commands of the Lords Commissioners of the Treasury, conveyed to me in their letter of the 17th February 1829, I have (in order to identify the certificate with the trial pieces to which it relates) caused an exact copy of the inscription placed thereon to be inserted in the margin of this certificate; and I have also caused the several trial pieces to be stamped with the impression hereunto affixed from the die now in use at His Majesty's Mint, for the sixpence piece of silver.

(signed) *J. C. Herries.*

Royal Mint, 26 Jan. 1830.

Sir, Mint Office, 29 Jan. 1830.

I AM directed by the Master of the Mint to acquaint you, that in pursuance of the commands of the Lords Commissioners of His Majesty's Treasury, the unappropriated trial pieces, consisting of eight pieces of gold and eight pieces of silver, with three silver trial pieces for the use of the East India Company, which were committed to my care at the Treasury on the 27th instant, have been deposited in the iron pyx chest at the Mint, under the joint custody of the deputy master, the comptroller and King's assay master at the Mint, to be delivered under such order or warrant as their Lordships may be pleased to direct to be issued for that purpose.

I have, &c.

G. R. Dawson, Esq., &c. &c. &c. *J. W. Morrison.*
Treasury.

My Lords, Royal Mint, 20 January 1830.

I HAVE the honour of informing your Lordships that the new trial pieces for gold and silver having been prepared by the jury of goldsmiths, they have, in conformity with your Lordships' directions, been submitted to the assays of the King's and Master's assay masters at the Mint, and have by them been found to be of the proper degree of fineness.

The certificates of those officers will accordingly be affixed to those plates, in obedience to your Lordships' directions.

In consequence, however, of a representation which has been made to me by Mr. Bingley, the King's assay master, it is my duty to make known to your Lordships some peculiar circumstances relating to the preparation of the trial piece for gold, in order that your

(A.) *continued.* ROYAL MINT.

Appendix, No. 42. Papers relating to the New Standard Trial Plates.

Lordships may be aware of the principle upon which the officers of the Mint feel themselves warranted in affixing their certificate to it.

It has for some time been well known, not only to the present King's assay master, but to his predecessor in the office, that the methods in general (or rather in universal) use throughout Europe for the assay of gold coin or bullion, whether for public or for private purposes, are in a certain degree defective; and that the fineness of the metal (by which term is meant the relative quantity of fine gold supposed to be contained in any given mass of gold combined with an inferior metal) has always, in consequence of that imperfection, been overrated. Thus, in all assays of gold in His Majesty's Mint, and in those of all other European countries, the gold described and reported by the most expert assayers as being of the fineness of British standard (or of any other specific degree of fineness), has in truth been less fine to an extent which, although it constitutes only a small fraction on the pound weight of gold, is nevertheless of some importance, when the high intrinsic value of the metal is considered.

These facts came to my knowledge while the proceedings for the preparation of new trial pieces were going on; and as the officers of the Mint are on this occasion, for the first time, required by your Lordships to bear a part in these proceedings, and to sustain a share of the responsibility for the perfect accuracy of the new plates, it has appeared to them, and to me, to be our duty to put your Lordships in full possession of them.

A paper hereunto annexed, marked (A.), will exhibit to your Lordships the nature and extent of these variations. And in order to elucidate the subject more completely, the paper (B.) will show the difference between the real and the reputed fineness of every gold trial plate prepared by the Goldsmiths' Company from the year 1660 to the present time.

As I deemed it of considerable importance to verify by some distinct proof, that in the mints of other countries the fineness of gold is estimated by the same process, or at all events subject to the same error as in ours, I caused portions of the metal, of which the new trial plates have been prepared by the jury of goldsmiths, to be transmitted through a private channel to Paris and to Amsterdam, to be there assayed and reported upon.

The result has completely established the fact that in those countries the fineness of gold is measured upon the same principle as at the British Mint. At Paris the piece assayed has been reported to be less fine than British standard by a fraction so small as to be unworthy of notice, viz. $\frac{1}{4000}$ part only of a pound weight, while at the mint of Amsterdam it has been reported rather better than standard by a somewhat larger fraction.

The annexed paper (C.) will show these results, as certified by Mr. Bingley from the original documents in his possession; and it is proper that I should add, that after a great number of repeated and most careful assays, that accurate officer is confident that the deviation of the new plate from the precise fineness of standard gold, as usually estimated, is even less than the small fraction indicated by the French report.

It appears, therefore, that according to the principles of estimating the fineness of gold which now prevail, and have always prevailed in the different countries of Europe, and according to which all gold monies have been and still are manufactured, the trial plates which have been prepared for your Lordships' approval, are accurately adjusted to the British standard of 11 ounces fine gold to one ounce of alloy.

But as the terms of the indenture, by which the Master of the Mint is bound in this respect in the preparation of the gold coin, and which are confirmed and made unalterable by the Act 56 Geo. 3, c. 68, are strictly imperative, and without qualification as to any particular modes of assay, it has appeared to me, and to the officers of the Mint, that we should not be justified, except with the cognizance and approbation of your Lordships, in giving the sanction of the Mint to plates containing in the slightest degree less than $\frac{11}{12}$ths of fine gold, ascertained by the most perfect tests that can be applied in the assay of them.

It is at the same time my duty to represent to your Lordships that great inconvenience would arise from a determination to introduce, as the standard of our gold coin, a degree of fineness corresponding with the strictest adherence to the terms of the indenture, instead of that which is now and has always been universally received as the fair construction of them. It would have the effect of raising the standard of the gold coin in a proportion equivalent in value to about 2 *s.* 6 *d.* in the 100 *l.* sterling, above what it has hitherto been, and so long as other nations of Europe continue in their present practice of estimating the fineness of gold for coinage and for private trade, the adopting a practice which would increase the intrinsic value of our gold money, without altering its reputed value or denomination, could not fail to subject us to losses and disadvantages too obvious to your Lordships to require that I should dwell upon them.

I therefore submit this communication in the discharge of the duty which I owe your Lordships as Master of the Mint, and in order to do justice to the skilful and upright officers who have brought the subject under my notice, but at the same time with the hope that your Lordships will not think it necessary to direct any change to be made in the quality of the gold trial plate, and will approve of the conduct of Mr. Bingley and Mr. Beckwith in having certified its correctness upon the principle, and according to the usage, which have prevailed in this and other countries time out of mind.

I have, &c.

(signed) *J. C. Herries.*

To the Lords Commissioners of
His Majesty's Treasury, &c. &c. &c.

(A.)

(A.)
continued.
ROYAL MINT.

Appendix, No. 42.
Papers relating to the New Standard Trial Plates.

Queries by the Master of the Mint.

Mr. Bingley having stated to the Master of the Mint that the methods of assaying gold now in use, and by which the purity of coin or bullion, consisting of gold and any inferior metal, is universally determined in this country, and in other mints of Europe, is subject to an imperfection which invariably occasions a result not strictly exhibiting the real proportions of gold to the alloy, or in other words the real fineness of the gold coin or bullion assayed:

He is desired to explain the cause of this imperfection, and the manner and degree in which, upon a general average, it operates in the assay of standard gold?

Answers by Mr. Bingley, the King's Assay Master.

The assay of gold and silver coin or bullion is a process to determine, by analytical examination, the proportion which the precious metal bears to any metal of inferior value, or alloy, in combination with it. In combination with gold, silver is considered alloy.

In the assay of gold it is, according to long established and universal practice, a part of that process to add silver, in the first instance, to the piece of metal subjected to the assay, and afterwards to extract it, together with any other material previously conjoined with the gold, by an acid.

It has been generally concluded by those who conduct this operation, that the extraction so made was complete, and they have accounted the remainder as being pure gold.

A very careful inquiry, founded on a great number of experiments, and verified by other methods of ascertaining the truth, has, however, led the King's assay master to the clear proof of the fact that a part of the silver in combination with the gold remains incorporated with it, and untouched by the acid, the agency of which is relied upon in these assays.

This portion of silver, very intimately and imperceptibly blended with the gold, is consequently reckoned as gold after the process; and the result is, a conclusion that the fine gold contained in the mass of which a specimen is thus assayed, contains more fine gold than is really to be found in it.

The acids employed by assayers, and the several parts of their process, are so generally of the same description that there is very little variation in the extent of the error to which the operation, thus conducted, leads.

The quantity of silver which is reckoned as gold is almost uniformly the same; so that all the mints of Europe (so far as the King's assay master has had opportunity of observing) would show the same results on the assay of the same piece of bullion, with the exception only of very trifling variations, which must occasionally occur in the management of such a delicate operation, even by persons of the same degree of skill.

Upon the general average, therefore, the assay of gold may be fairly said to be liable, according to the established practice, to the same degree of error. The extent of it is not less than from 7 to 7 ½ grains troy in the pound weight of standard gold. This has been ascertained by so many experiments made at the Mint with the utmost caution, that no doubt of the accuracy of the fact can be entertained. The value of 7 ½ troy grains of pure gold may be stated to be 1 *s.* 3 *d.*, and the pound weight troy being 46 *l.* 14 *s.* 6 *d.* at the Mint price, it follows that the amount of this overrating of the value of gold is about 2 *s.* 9 *d.* in the 100 *l.* value.

If the difference be assumed as seven grains only, the value of it will exceed by a very small fraction 2 *s.* 6 *d.*, or one-eighth per cent.

(B.)

Queries by the Master of the Mint.

As it appears that the trial pieces used for ascertaining the purity of the coin of this kingdom have sometimes been made, on former occasions, with minute variations from the exact standard fineness, according to the established mode of ascertaining it (although such variations were too trifling to be of any importance as affecting the value of the coin), Mr. Bingley is requested to state the result of his examination of all the gold trial pieces which have been made from the year 1660 inclusive, and to express the purity thereof, with reference to the exact standard, both by the usual mode of assay, and also according to the most accurate analysis which he is capable of making of them.

In this statement he will include the trial pieces now prepared for the approbation of the Treasury by the jury of goldsmiths.

(A.)
continued.
ROYAL MINT.

Appendix, No. 42.
Papers relating to the New Standard Trial Plates.

Answers by Mr. Bingley, the King's Assay Master.

The several gold trial plates prepared by the juries of goldsmiths from the year 1660 to the present time have been assayed by the King's assay master, and have been found better or worse than standard in the proportion hereunder stated, according to the usual mode of ascertaining the fineness of gold, and according to the most accurate examination respectively:

DATE of Trial Pieces.	According to the usual Mode.		Difference in Value per Cent. from Standard.	According to accurate Examination.		Difference in Value per Cent. from Standard.	
	Better.	Worse.		Better.	Worse.		
1660	- - -	13 troy grains	4/4 p. cent. worse.	- - -	20 grains troy	6/3 p. cent. worse.	The difference between the first and the second method is very nearly 7½ grains, as explained in the answer to the first question, but as it varies from 7 to 7½, it has in this paper been stated throughout at 7 grains.
1668	- - -	5 ditto -	1/8 ditto -	- - -	12 ditto -	4/ ditto	
1707	9 troy grains	- - -	3/ per cent. better.	2 troy grains	- - -	/8 p. cent. better.	
1728	6 ditto -	- - -	2/ ditto -	- - -	1 troy grain	/4 ditto worse.	
1830	standard -	- - -	- - -	- - -	7 troy grains	2/6 ditto worse.	

(C.)

Queries by the Master of the Mint.

Pieces from the metals from which the proposed trial plates of gold and silver have been prepared, having beer assayed at the mints of Paris and Amsterdam, the reports on which are in the possession of the King's assay master, he is desired to state from those papers the results of the assays in the terms used in those mints, and also converted into the terms used at the British Mint; and further, what is the difference in value between those results respectively, and the exact standard, at the Mint price, upon the pound weight of gold.

He is desired also to state the report of the Paris Mint, on the silver trial piece now prepared, and the extent or value of the difference, if any, between that report and the exact standard.

Answers by Mr. Bingley, the King's Assay Master.

The report of the assay at the French mint, of the piece of the metal from which the new gold trial plate is made, is that it is 916 $\frac{62}{100}$ fine.

The report of the mint at Amsterdam upon the same is, that it is 917 fine.

In both these mints the fineness of gold is expressed by millièmes, or $\frac{1}{1000}$ parts.

British standard, which is $\frac{11}{12}$ths fine, is expressed by the fraction 916 $\frac{66}{100}$.

The report of the French mint differs therefore from the exact standard by $\frac{4}{100}$th parts of 1,000, being less than a quarter of a grain upon the pound weight, or in money, less than 1*d.* in the 100*l.* value, a difference too small to be considered in practice.

The difference between the report of the Dutch mint and standard is $\frac{14}{1000}$ of a millième better, which is equivalent to about two grains troy, or in money, better by about 4*d.* in the 100*l.* value.

But repeated experiment has satisfied the King's assay master, that even these slight variations would not, upon a more careful examination, be found by those mints in the new trial plate.

With respect to silver, the French report of the fineness of the piece of the new trial plate assayed at that mint is 925 millièmes, corresponding, without the minutest difference, with British standard.

It has not been assayed at the Dutch mint.

(A.)
continued.
ROYAL MINT.

Appendix, No. 42.
Papers relating to the New Standard Trial Plates.

My Lords, Royal Mint, 20 January 1830.

WITH reference to my letter of this day, I have the honour of submitting to your Lordships, that if you should be disposed to approve of what I have therein laid before you, and to order the new trial pieces prepared by the Goldsmiths' Company to be adopted in the trial of the King's coin, and the assay of manufactured plate hereafter, it will be advisable that all other trial pieces, or parts of trial pieces, whether of gold or silver, now in use, or deposited at the Exchequer, should, after the next trial of the pyx (at which they must of necessity be used for determining the quality of the monies coined while they were in force), be delivered up to the Master of the Mint, in order that the same may, under his direction, be lodged at the Mint, in the custody of the King's assay master, as records of the state of the coin of this realm at the several periods in which they were prepared.

I have, &c.

To the Lords Commissioners of His Majesty's Treasury. (signed) *J. C. Herries.*

Sir, Treasury Chambers, 29 January 1830.

THE Lords Commissioners of His Majesty's Treasury having taken into their consideration your representation of the 20th instant on the subject of the new trial plates for gold and silver, in which the attention of their Lordships is drawn by you to circumstances of importance relating to the trial piece of gold, and my Lords having fully considered your statement, and the documents thereunto annexed, I am commanded by them to acquaint you that they approve of the principle on which the officers of the Mint have proceeded in the assay of the trial piece, and in giving their certificate thereupon, whereby a strict adherence to the lawful standard of the gold monies of this kingdom, as it has existed since the reign of Queen Elizabeth, is most effectually secured.

I am, &c.

The Master of the Mint, &c. &c. &c. (signed) *J. Stewart.*

Dear Sir, Mint Office, 11 May 1830.

IT being necessary to dispose of the trial pieces which have been lately made by the jury of the Goldsmiths' Company for the provincial assay offices of Birmingham and Sheffield, the Lords of the Treasury have desired the Master of the Mint, with a view to the charge to be made for the same, to ascertain what expenses have been defrayed or incurred in the making of the new trial pieces, and on what account these expenses have arisen; I am therefore directed by Mr. Herries to request you will please to submit to the warden and proper officers of your company, that they should prepare, as soon as may be convenient, an account of the charges and expenses that have been incurred for the new trial pieces, and that the said account should be either transmitted to the Master of the Mint, or to the Lords Commissioners of His Majesty's Treasury, according to the manner which appears by your records to have been observed on former occasions.

I am, &c.

J. Lane, Esq., Goldsmiths' Hall. (signed) *J. W. Morrison.*

Dear Sir, Goldsmiths' Hall, 29 May 1830.

I AM directed by the prime warden and wardens of the Goldsmiths' Company to inform you that they intend bringing the new trial plates of gold and silver (lately delivered to them by the Lords Commissioners of His Majesty's Treasury) into use in the assay office here, on Thursday next, the 3d day of June.

I am, &c.

J. W. Morrison, Esq., Mint. (signed) *John Lane.*

(A.)
continued.
ROYAL MINT.

Appendix, No. 42.
Papers relating to the New Standard Trial Plates.

Sir,

Mint Office, 30 June 1830.

THE Lords Commissioners of His Majesty's Treasury having delivered into the custody of the Master and principal officers of the Mint certain new indented standard trial pieces, consisting of eight pieces of gold and eight pieces of silver, intended for the use of the provincial assay offices established for assaying wrought plate, and it being understood that, in reference to their Lordships' order, signified in your letter of the 4th May last, the Goldsmiths' Company have now sent to the Treasury their account of the expenses incurred in making the trial pieces, I am directed by the Master of the Mint to request you will please to move their Lordships to grant their warrant or authority to the officers of the Mint for the delivery of the said trial pieces to the respective assay offices of Sheffield and Birmingham, and to such other companies established for assaying wrought plate as are considered proper by their Lordships to be supplied with the new trial pieces, on their requiring the same and paying the expenses, being in conformity with the provisions contained in the Act 5 Geo. 4, c. 52, s. 31, in respect to the assay office at Birmingham.

I have also to submit for their Lordships' approbation, that on the warrant being issued, a day may be appointed for the parties to attend at the Mint to receive the trial pieces, and to sign a receipt in the presence of an officer from the Treasury, as was done on the occasion of the trial pieces delivered to the East India Company.

It is proposed that the old trial pieces in the Mint used for the Sheffield and Birmingham diets should be given up to their offices, on their receiving the new pieces, the expenses thereof having been paid by them.

I have, &c.

The Honourable
J. Stewart, &c. &c. &c. Treasury.

(signed) *Jas. W. Morrison.*

ROYAL MINT.

Minute, 11th August 1830.

IN pursuance of a warrant of Treasury, dated 2d August 1830, authorising the delivery of the new standard trial plates to the places therein enumerated, and also in conformity to Mr. Stewart's letter, dated 30th July 1830, directing that arrangements may be made for the delivery, by the Mint officers, of the plates and of the proportion of the expense to be charged;—

The Master and Board directed that letters should be written to the several assay offices, requesting that a person properly authorised should attend on their respective behalfs at the Mint office any Wednesday between the hours of 12 and 1, when the plates would be delivered to him in the presence of the proper officers of the Mint, on his signing a receipt at the back of the Treasury warrant and paying the proportion of expenses, as directed by the Treasury instructions.

The Board also directed, in conformity with the suggestion of the Treasury, that the plates delivered to the Mint should be divided into such parts as might be considered sufficient for the use of the respective assay offices, and that each part, before it was delivered, should be stamped with the half-sovereign die for the gold, and the sixpenny die for the silver, and also with the name of the place to which it was to be delivered.

The Board were of opinion that the expense for each plate or part of a plate delivered should be calculated according to the mode and proportion recommended by the Treasury, namely:—

	£.	s.	d.		£.	s.	d.
The cost of gold for 12 plates - - -	279	6	3	For one plate -	23	5	6¼
The cost of silver for 15 plates - -	27	14	–	Ditto - -	1	16	11¼
The expense of making 27 plates, viz.: 12 for gold and 15 for silver - -	83	9	11	Ditto - -	3	1	10¼
	390	10	2	and so in proportion for any part of a plate delivered.			
The loss by numerous meltings, not charged by order of Treasury -	81	1	10				
	£. 471	12	–				

441

(A.)
continued.
ROYAL MINT.

Appendix, No. 42.
Papers relating to the New Standard Trial Plates.

The following Plates and Parts of Plates are directed to be Delivered.

——	Gold.	Value.			Silver.	Value.			Total Value.		
London:		£.	s.	d.		£.	s.	d.	£.	s.	d.
To the Exchequer - -	1	26	7	4½	1	4	18	9½	31	6	2
The Master of the Mint -	1	26	7	4½	1	4	18	9½	31	6	2
The King's Assayer - -	1	26	7	4½	1	4	18	9½	31	6	2
The East India Company -	–	-	-	-	3	14	16	4½	14	16	4½
The Goldsmiths' Company -	1	26	7	4½	1	4	18	9½	31	6	2
Provincial Assay Offices:											
The Assay Office, Birmingham	½	13	3	8¼	½	2	9	4¾	15	13	1
— Sheffield -	–	-	-	-	½	2	9	4¾	2	9	4¾
— Edinburgh	½	13	3	8¼	½	2	9	4¾	15	13	1
— Dublin -	½	13	3	8¼	½	2	9	4¾	15	13	1
— Exeter -	⅓	8	15	9½	⅓	1	12	11	10	8	8½
— Newcastle-on-Tyne.	⅓	8	15	9½	⅓	1	12	11	10	8	8½
— York -	⅓	8	15	9½	⅓	1	12	11	10	8	8½
— Chester -	⅓	8	15	9½	⅓	1	12	11	10	8	8½
— Glasgow -	⅓	8	15	9½	⅓	1	12	11	10	8	8½
Remain - - - -	4	105	9	6	4	19	15	2	125	4	8
	½	13	3	8¼	⅓	1	12	11	14	16	7¼
	⅓	8	15	9½	–	-	-	-	8	15	9½
	12				15				390	10	3½

The following letter was directed to be written to each of the above provincial assay offices, to appoint a time for the delivery of the plates to them respectively, viz.

Sir, Mint Office, 10 August 1830.

In reference to your application of the —— instant, respecting the arrangements for the new trial plates to be delivered for your guidance in the assays of wrought plate, I am directed by the Master of the Mint to request, in pursuance of a warrant and instructions received by him from the Lords Commissioners of His Majesty's Treasury, that yourself, or some person properly deputed on your behalf (in writing), will attend at this office on any Wednesday that may be convenient, between the hours of 12 and 1 o'clock, when the new plates will be delivered, in the presence of the proper officers of the Mint, on your signing a receipt for the same at the back of the Treasury Warrant, and paying the proportion of expenses directed in the instructions, namely,

For the Gold Plate, £.———

For the Silver Plate, £.———

I am, &c.

To Mr. ———, Assay Office. *Jas. W. Morrison*

Appendix, No. 43.

Appendix, No. 43. List of Returns from the Mint-office.

LIST OF RETURNS from the Mint-office, ordered by the Committee of the House of Commons upon the Mint Establishment.

1. An Account of the Gross Charge by Indenture and Treasury Authority, for the Coinage of Gold, Silver and Copper Monies, including the Private Coinages, and the Charges for Refining and Melting Bullion into Ingots for the Assay; also of the sums paid thereout for the respective Charges of the Moneyers, and Melter and Refiner, according to their Agreements; for the Master's Fees, as regulated by the Act, 39 Geo. 3, and showing the Surplus applied in aid of the Contingent Expenses of the Establishment, from the year 1816 to 31st March 1837, distinguishing each year.—*See* Appendix (A.), No. 11.

2. A Return of the Number of Gold Ingots imported by the Bank of England into the Master's Assay-office in the Royal Mint for Coinage, from the year 1815 to the year 1835 inclusive, together with the difference of the Master's Assayer's Report, and the Importer's Assay.—*See* Appendix (A.), No. 41.

3. Papers relating to the New Standard Trial Plates.—*See* Appendix (A.), No. 22 and No. 42.

4. Memorandum as to Loss suffered by Officers in charge of the Bullion and Coin in Mint-office; and proposing a change in Packing Office.—*See* Appendix (A.) No. 18.

5. A Return of the Amount of Alloy added to the Scissel Pots of Gold and Silver, in each year since 1816, and the value gained by the Gold and Silver by such Alloy.—*See* Appendix (A.), No. 21.

6. Return of the Charge of Copper Coinage per Ton, and how the charge is distributed.—*See* Appendix (A.), No. 29.

7. An Abstract Account of the Trials of the Pyx, showing the Date of each Coinage; the amount or value of the Coinage; and the Pieces deposited in the Pyx for Trial, from the year 1816 to the year 1837.—*See* Appendix (A.), No. 17.

8. A Return of the Mint as to Coinage, if working for the ordinary hours.—*See* Appendix (A.), No. 20.

9. Return of the Pieces deposited and released from the Pyx at the last Trial, and how accounted for by the Mint.—*See* Appendix (A.), No. 28.

10. A Return of the Value of the Materials and Labour supplied to the King's Assay-Master and Master's Assay Master in each of the last 15 Years, from 1821 to 1835, both included.—*See* Appendix (A.), No. 26.

11. Return to the Inquiry of the Committee, "Who pays for the Alloy supplied?"—*See* Appendix (A.), No. 25.

12. Return of Purchases of Silver since 1st January 1835, distinguishing Dollars or other Coin from Silver Bars, and stating whether such Purchases were made for Commissariat Department or for the Mint.—*See* Appendix (A.), No. 10.

13. Return of the Amount of Fees received for private Coinage, and the manner in which the same was divided, and the Persons to whom paid, and how much each received in each Year, from 1816 to 31 December 1836.—*See* Appendix (A.), No. 27.

14. An Account showing the Total Sum paid for Wages to the Artificers employed in keeping the Machinery of the Mint in order in the Year 1835, distinguishing the Amount paid by Government and the Amount paid by the Moneyers; also the Allowance for Coals, Tallow, Oil, &c., for working the Machinery.—*See* Appendix (A.), No. 15.

15. (No. 1.) A Return of the several items of Charge and their several Amounts, forming the Sum of 14,165*l.* 1*s.* 9*d.*, as allowed by the Mint Indenture for the Coinage of Gold, Silver and Copper Monies in 1835, stating the Number of Pieces of each denomination coined, the rate of Charge, and the Amount charged for each kind.—*See* Appendix (A.), No. 12.

(No. 2.) An Account of the application of the Sum of 14,165*l*, 1*s.* 9*d.*, stating the Amount paid to each Person, for what Service paid, and under what Authority.—*See* Appendix (A.), No. 13.

16. An Account of the Appropriation of 401 *l.* 5*s.* 1*d.*, charged as Brokerage paid by the Deputy Master of the Mint, for the purchase of Bullion in 1835, distinguishing the accounts of Gold, Silver and Copper, and the Amount of each of these Metals used in Coinage for the Commissariat Service, stating the rate of the Brokerage and the Amount paid to each Broker.—*See* Appendix (A.), No. 14.

17. List of Books to be Exhibited to the Committee.—*See* Evidence, 6 June 1837.

18. A Statement

Appendix, No. 43. List of Returns from the Mint-office.

18. A Statement, in detail, of the Application of 71,704 *l.* 4 *s.* 4 *d.*, being Surplus Fees arising on the several Coinages carried on at the Mint from the year 1816 to 31 March 1837, after Paying the Charges to the Moneyers and Melter, and Fees to the Receiver.—*See* Appendix (A.), No. 38.

19. A Statement of the manner in which the Master's Fees, received from the 10th October 1815 to the 5th April 1837, have been Appropriated.—*See* Appendix (A.), No. 37.

20. A Statement, in detail, of the Amount of 422,523 *l.* 0 *s.* 1 *d.*, paid to the Company of Moneyers, from the year 1816 to 31 March 1837, distinguishing the Amount paid for Gold, Silver and Copper Coinages (including Private Coinages) in each year, and stating the Weight of the Monies Coined.—*See* Appendix (A.), No. 36.

21. A Statement, in detail, of the Sum of 142,902 *l.* 11 *s.* 3 *d.*, paid to the Melter, within the same period, for Gold, Silver and Copper Coinages (including Private Coinages) and other Services, in each Year.—*See* Appendix (A.), No. 36.

22. An Account of all Gold, Silver and Copper Monies of the Realm, Coined at His Majesty's Mint, from 1st January 1816 to the 31st December 1836, specifying the Weight, Number of Pieces and Value, of each denomination of Money Coined yearly, and the Total Value of the respective Coinages in each year.—*See* Appendix (A.), No. 35.

23. Return and Explanation relating to the Coinage of the Gold Bullion imported into the Mint by Messrs. Sharp & Co.—*See* Appendix (A.), No. 19.

24. A Return of the Shortest Period in which Gold Bullion in Ingots has been Coined at the Mint, in reference to the Question No. 2224 of the Mint Committee.—*See* Evidence, 27 June 1837.

ANALYSIS OF INDEX.

LIST of the PRINCIPAL HEADINGS referred to in the following INDEX, with the Page of the INDEX at which they will be respectively found.

ACCOUNTS - - - - - - - p. 1
Cash Book - - - - p. 11
Comptrolment Roll - - - p. 14
Journals and Ledger - - - p. 23
Pot Books, &c. - - - - p. 35

ALLOY:
1. *Nature thereof* - - p. 1
2. *Regulations concerning its addition* p. 1
3. *The Melter's Perquisite* - p. 2
Melter and Refiner - - - p. 29
Melting - - - - - p. 30
Pot Books - - - - - p. 35
Scissel - - - - - p. 39
Standard - - - - - p. 41

ARTIFICERS - - - - - p. 2
Machinery, 3 - - - p. 25
Wages - - - - p. 44

ASSAYS:
1. *Generally* - - - p. 3
2. *Regulations and practice of the Mint* - - - - p. 3
3. *Fees to Master's Assayer* - p. 3
4. *Papers communicated by M. Thiers to Earl Granville* - - p. 3
Bank of England - - - p. 5
King's Assay Master - - - p. 23
Master's Assay Master - - p. 27
Private Assays - - - - p. 35
Trial Plate - - - - p. 43

BANK OF ENGLAND:
1. *Sales and purchases of Bullion and Coinage* - - - p. 5
2. *Regulations of the Bullion Office*, p. 6
3. *Re-coinage of Guineas* - p. 6
4. *Miscellaneous Papers laid before the Committee* - - p. 6
Assays - - - - - p. 3
Brown & Brind - - - - p. 10
Coinage - - - - - p. 13
Gold - - - - - - p. 20
Mocatta and Goldsmid - - p. 31
Refining - - - - - p. 37
Weight - - - - - p. 45

Board, The - - - - - p. 9

Brown & Brind - - - - p. 10

BULLION - - - - - - p. 11
Bank of England - - - p. 5
Coinage - - - - - p. 13
Exportation - - - - p. 18
Gold - - - - - - p. 20
Melting - - - - - p. 30
Silver - - - - - p. 41

Cadogan, Lord - - - - - p. 11

Check Department - - - - p. 12

Clerk of the Irons - - - - p. 12

Clerks - - - - - - - p. 12

COINAGE:
1. *Generally* - - - p. 13
2. *Delays at the Mint* - - p. 13
3. *Papers laid before the Committee*, p. 13
Bank of England - - - p. 5
Copper Coinage - - - - p. 15
Exportation - - - - p. 18
French Mint - - - - p. 19
Gold - - - - - - p. 20
Gold Coinage Fund - - - p. 21
Machinery - - - - - p. 24
Melting - - - - - p. 30
Moneyers, Provost and Company of p. 31
Pyx - - - - - - p. 36
Remedy - - - - - p. 38
Silver - - - - - p. 41
Steam Power - - - - p. 42

Comptroller - - - - - p. 14

Comptrolment Roll - - - - p. 14

Copper Coinage - - - - p. 15

Deputy Master - - - - - p. 16

DIES - - - - - - - p. 16
Clerk of the Irons - - - p. 12
Engravers - - - - - p. 18

Drawbench - - - - - p. 17

Dutch Mint - - - - - p. 17

Engravers - - - - - p. 18

ESTABLISHMENT OF THE MINT - - p. 18
Board, The - - - - p. 9
Check Department - - - p. 12
Clerks - - - - - p. 12
Moneyers, Provost and Company of p. 31
Operative Department - - p. 34
Solicitor to the Mint - - - p. 41

Exportation - - - - - p. 18

Fees - - - - - - - p. 18

FRENCH MINT:
1. *Expenses and Management* p. 19
2. *Papers laid before the Committee*, p. 20
Machinery - - - - - p. 24
Remedy - - - - - p. 38

ALPHABETICAL LIST of the PRINCIPAL HEADINGS—*continued.*

GOLD - - - - - - p. 20
Alloy - - - - - - p. 1
Assays - - - - - p. 3
Bank of England - - - p. 5
Bullion - - - - - p. 11
Coinage - - - - - p. 13
Refining - - - - - p. 37
Trial Plate - - - - p. 43

Gold Coinage Fund - - - - p. 21

Indenture - - - - - - p. 22

KING'S ASSAY MASTER:
1. *Antiquity, Duties, Salary and Emoluments of the Office* p. 23
2. *Papers laid before the Committee,* p. 24
Alloy - - - - - - p. 1
Assays - - - - - p. 3
Bank of England - - - p. 5
Coinage - - - - - p. 13
Melting - - - - - p. 30
Private Assays - - - - p. 35
Scissel - - - - - p. 39
Stopped Pots - - - - p. 42
Water Silver - - - - p. 44

King's Clerk and Clerk of the Papers p. 24

MACHINERY:
1. *Magnitude and Expense thereof,* p. 24
2. *Liability to repair* - - p. 25
3. *Papers laid before the Committee,* p. 25
Artificers - - - - - p. 2
Coinage - - - - - p. 13
French Mint - - - - p. 19
Moneyers, Provost and Company of p. 31
Superintendent of Machinery - p. 42
Wages - - - - - p. 44

Master of the Mint - - - - p. 26

Master's Assay Master - - - p. 27

MELTER AND REFINER:
1. *His Contract, Duties, and Allowances* - - - - p. 29
2. *Establishment* - - - p. 29
3. *Papers laid before the Committee,* p. 29
Alloy - - - - - p. 1
Melting - - - - - p. 29
Refining - - - - - p. 37
Refining Department - - - p. 37

MELTING:
1. *Generally* - - - p. 30
2. *Papers laid before the Committee,* p. 30
Bank of England - - - p. 5
Brown & Brind - - - - p. 10
French Mint - - - - p. 19
Surveyor of Meltings - - - p. 42

MONEYERS, Provost and Company of:
1. *Constitution and Privileges* p. 31
2. *Receipts and Expenses* - p. 31
3. *Papers laid before the Committee,* p. 31
Apprentices - - - - - p. 2
Artificers - - - - - p. 2
Coinage - - - - - p. 13
Drawbench - - - - - p. 17
Machinery, 3 - - - - p. 25
Wages - - - - - p. 44

POT BOOKS - - - - - p. 35
Alloy - - - - - p. 1
Melter and Refiner - - - p. 29

PRIVATE ASSAYS - - - - p. 35
Bank of England - - - p. 5
Bingley, Mr. *H.* - - - - p. 9
Gold - - - - - - p. 20
King's Assay Master - - - p. 23

Private Coinage - - - - p. 36

Prosecutions - - - - - p. 36

PYX:
1. *At the Mint Office* - - p. 36
2. *By a Jury of Goldsmiths* p. 37
3. *At Foreign Mints* - - p. 37
Standard - - - - - p. 41
Trial Plate - - - - p. 43

Refining - - - - - - p. 37

Refining Department - - - p. 37

Remedy - - - - - - p. 38

Robberies - - - - - - p. 38

Salaries - - - - - - p. 39

SCISSEL - - - - - - p. 39
Alloy - - - - - p. 1
Melting - - - - - p. 30
Weigher and Teller - - - p. 45

Silver - - - - - - p. 41

Silver Coinage - - - - - p. 41

Solicitor to the Mint - - - - p. 41

Standard - - - - - - p. 41

Stopped Pots - - - - - p. 42

Superintendent of Machinery - - p. 42

Surveyor of Meltings - - - p. 42

Surveyor of Money Presses and Coins p. 43

Trial Plate - - - - - p. 43

United States Mint - - - - p. 44

Wages - - - - - - - p. 44

Warden of the Mint - - - - p. 44

Water Silver - - - - - p. 44

Weigher and Teller - - - - p. 45

Weight - - - - - - - p. 45

INDEX.

N.B.—In the following Index the *Figures* following the Names refer to the number of the Question in the Evidence; and *App. p.* to the page of the Appendix.

A.

ACCOUNTS. Mode of keeping accounts in the Mint explained, *Morrison* 108, 109——The cash accounts are now kept on the system of double-entry, *Morrison* 302–306——The system of double-entry has been introduced as an experiment, but is not applicable to the account rendered by the Master to the Audit Board, *Barton* 583–585——The accounts of the check department are complete, *Barton* 587, 588——Mode in which the accounts are kept in each department of the moneyers, *Atkinson* 1907——Opinion that the adoption of the system of double-entry would only embarrass the business of the Mint-office, (Comptroller's and King's Clerk's Report,) *App. p.* 31.
See also *Acts of Parliament. Books and Accounts. Cash-book. Comptrolment Roll. Journals and Ledger. Pot-books.*

Acid. Return of the value of acid supplied to the King's assayer and master's assayer, in each of the 15 years from 1821 to 1835 inclusive, *App. p.* 93.

Acts of Parliament. The repeal of 9 Geo. 3, 39 Geo. 3, and 1 & 2 Will. 4 proposed, in order to simplify the cash accounts of the Master of the Mint, and to introduce the system of annual grants from Parliament, *App.* p. 28.

African Gold. See *Gold.*

Alchorne, Mr. Late King's assayer; discovered the retention of silver by gold after the assay, which is even now not generally known; Bingley's remarks on trial plates, *App. p.* 80——Was sent abroad to inspect the Mints of France and Flanders; his descriptions and models were in the possession of Lord Cadogan; suggestion that they should be deposited in the Mint-office, (Messrs. Garbett's Report,) *App. p.* 221.
See also *Remedy.*

Alchorne, Slanesby. Average of his clear yearly profits as master's assayer, *App. p.* 219.

Alexander, Mr. See *Machinery.*

Allowances. Proposed to be discontinued to certain officers in the Mint, by Mr. W. Pole, *App. p.* 8.

ALLOY:
1. *Nature thereof.*
2. *Regulations concerning its addition.*
3. *The Melter's Perquisite.*

1. *Nature thereof:*
The nature of the alloy in gold has been changed from silver and copper to copper only, for the purpose of extracting the silver from sovereigns, *Bingley* 705, 706——A cheap mode of doing this was discovered, and no sovereigns with silver are now in circulation; the process described, *Bingley* 705–717, *Mathison* 1744–1751——Copper alloy is as good as silver for the durability of the coin, *Mathison* 1716–1721.

2. *Regulations concerning its addition:*
The melter weighs the alloy and places it in bowls numbered like the pots; the surveyor checks the weight and delivers the alloy to the workmen, *Mathison* 1293, 1294——Amount of alloy added to the scissel pots, 1835 and 1836, *Barton* 482–495——Mode in which it is added; the copper is provided by the melter, *Bingley* 1544–1551——The melter cannot add more than the King's assayer directs, *Mathison* 1565–1573——No collusion can take place in the addition of alloy to the scissel pots without the cognizance of the whole Mint-office, *Mathison* 1436–1439——There is great difficulty in collusion, *Morrison* 1432–1436——Collusion would be possible between the King's assayer and the melter, *Bingley* 1618——The discretion of the King's assayer should be continued, *Morrison* 1602–1608——If any great deviation from the standard should appear, a report should be made to the Board, *Morrison* 1610–1616——The King's assayer is responsible for the alloy added, and the Board should not interfere, *Bingley* 1628–1630——A record is kept of the alloy added, *Bingley* 1631–1634.

Report, 1837—*continued.*

ALLOY—continued.

3. *The Melter's perquisite:*

Evidence as to the melter's right to the benefit of the excess of alloy in the scissel pots, *Barton* 476–481, 1415–1421——As to the expediency of continuing it, *Barton* 1422–1429——Examination of Mr. Barton's plan for compensating the melter for the withdrawal of this perquisite; difficulty and delay that would be occasioned by the new plan, *Mathison* 1400–1414, *Bingley* 1617——Value of the perquisite, 1816–1837, *Mathison* 1440–1443——The present system is preferable to that proposed by Mr. Barton, *Morrison* 1430, 1431——If his contract should be revised, his profits from the alloy should not be continued if an equally expeditious plan could be substituted, *Bingley* 1624–1627, 1635–1644——The Government should derive whatever advantage may arise from the addition of alloy to meet the refinements that take place during the conversion of the bullion into coin, *Bingley* 2589——The King's assayer should order publicly the alloy to be added, *Bingley* 2589——The coin is now a shade better than the standard plate; if witness's proposed regulations were enforced, it would be exactly standard, *Bingley* 2612–2615.

Comptroller's report on the right of the melter to receive the benefit of the excess of alloy in scissel pots, with proposed regulations relating thereto, *App. p.* 31——Minute of the Master of the Mint in 1818, directing that an account of the alloy should be kept by the surveyor of meltings, and a return made to the Board, *App. p.* 35——Board minute, 1820, authorizing the melter to add alloy to gold ingot pots, and to be charged with the amount of the standard value thereof, *App. p.* 35——Board minute, 1820, that in melting dollars, &c. the excess of alloy, to be regulated by the King's assayer, shall be allowed for the benefit of the melter; with other regulations relating to alloy, *App. p.* 35.

Mr. Mathison's letter to Lord Ashburton, April 1835, on the comptroller's intention of carrying to the Master's credit the benefit arising from alloy added to the ingot pots, heretofore enjoyed by the melter, *App. p.* 36——Letter of Messrs. Barton & Croasdaile on the same subject, *App. p.* 37——Extracts from the Mint Indenture, the melter's agreement, and several minutes of the Board on the addition of alloy, *App. p.* 38——Memorandum of the deputy master and King's assayer, on the appeal of Mr. Mathison to the Master on the dispute between him and the comptroller, *App. p.* 39——Minute of the Master, Lord Ashburton, in favour of the melter's claim to the benefit of the alloy, but recommending new regulations to be made, *App. p.* 39——King's assay-master's report in reply to the recommendations of the comptroller and King's clerk on the addition of alloy, *App. p.* 48——The practice of adding alloy to the ingot pots on the authority of the King's assayer, and the benefit accruing to the melter defended, (Melter's Report,) *App. p.* 55.

Return of alloy added to the scissel pots of gold and silver in each year since 1816, and the value gained, *App. p.* 77——Letter of Mr. Morrison in reply to the inquiry of the Committee, "Who pays for the alloy?" *App. p.* 93.

See also *Melter and Refiner. Melting. Pot-books. Standard.*

American Mint. See *United States Mint.*

Anne, Queen. Degrees below standard of gold coin during her reign, (Messrs. Garbett's Report,) *App. p.* 219.

Annealing-room. The pieces are here annealed or softened by heat for the stamping, *Ev. p.* 150.

Apprentices. Since 1713, the Master has had a veto on the appointment of apprentices by the Company of Moneyers; Mr. Tierney nominated Mr. Enfield, with their concurrence, *Atkinson* 1802–1810——The premium required of an apprentice; there is no limit to the number, *Atkinson* 1811–1818——The fee required is not invariably the same, *Atkinson* 1948——Circumstances connected with the appointment of apprentices to the Company of Moneyers; differences between Mr. Fletcher and Mr. Wellesley Pole, *Atkinson* 1935–1937——The appointment of Mr. Ommaney approved of by Mr. Wallace, *Atkinson* 1938–1941——Appointment of Mr. Nicoll, *Atkinson* 1942——There have been only two cases of interference on the part of the Master, one by Mr. Wellesley Pole, the other by Mr. Tierney, *Atkinson* 1943–1946——As the moneyers are responsible the Master ought not to interfere, *Atkinson* 1947——The appointment of an apprentice is not final until the approval of the Master of the Mint, *Atkinson* 2025——The moneyers are required not to take any apprentice without the licence of the Master of the Mint in writing under his hand, (Indenture,) *App. p.* 17.

See also *Chetwynd*, Right Hon. *W. Fletcher*, Mr.

Argent. See *Silver.*

Army Extraordinaries. Sums charged upon, for the purchase of silver bullion in 1828 for the coinage of crown pieces exported to the colonies, *App. p.* 90.

Artificers. Mode of settling the proportion of wages to be paid by the Mint and by the moneyers; difficulty of construing the terms of the agreement, *Barton* 545–554, 901–905, *Brande* 892–900, (Comptroller's Report,) *App. p.* 33——Manner in which extra labourers are paid, *Barton* 555–567——The great majority are paid entirely by the moneyers,

Brande

Report, 1837—*continued.*

Artificers—continued.

Brande 906-909——Difference in the duties of those paid partly by each, and those in the sole employ of the moneyers, *Brande* 910-914——Number of the former class, and the annual sum paid them, *Brande* 915, 916——If all the artificers were on the same footing, it would simplify the proceedings of the Mint, *Brande* 917, 918.

See also *Machinery. Wages.*

Ashburton, Lord. His minute expressive of his opinion that some remuneration should be made to the clerks of the Mint for length of service, *App. p.* 69.

See also *Alloy. Mathison,* Mr.

Assays:

1. *Generally.*
2. *Regulations and Practice of the Mint.*
3. *Fees to Master's Assayer.*
4. *Papers communicated by M. Thiers to Earl Granville.*

1. *Generally:*

Number of assays that can be performed in a day by the King's assayer; expense thereof, *Bingley* 656-665——By the master's assayer in a week, *Beckwith* 759-774——Forty assays would be required for 100,000*l.*, which the melter can melt in one day, *Morrison* 2207——Number of copples in each furnace, *Morrison* 2208-2210——Witness's charges for gold and silver assays, and the number that can be taken in a day, *Johnson* 2265-2267——Establishment required for taking 200 assays in a day; number of assays made in a furnace, *Johnson* 2313-2319——Complaints have been made of the detention of assays by the King's assayer, *Johnson* 2321-2323——Assaying is very unhealthy, *Bingley* 730, 731——Are performed at the London Mint as well as at the Mints abroad, on the principle of separating from gold every other metal in combination with it, (Bingley's Remarks on Trial-plates,) *App. p.* 79——Queries of the Master of the Mint as to the inaccuracy of the usual modes of assaying gold, with Mr. Bingley's answers, *App. p.* 241.

2. *Regulations and Practice of the Mint:*

The several processes for the assay of gold inspected by the Committee, *Ev. p.* 150——An assay determines the quantity of fine gold or silver contained in mixed metal; a parting assay, the quantity of silver in combination with gold or gold with silver, *Bingley* 718-722——Charges for parting assays, *Bingley* 723-729——The gold undergoes two assays at the Mint before it is delivered to the melter, *Sharp* 2241, 2242——The report of the assayer declares what the ingot contains, with reference to a fixed standard, *Bingley* 666, 667——Mode of comparing the assays of the King's assayer and master's assayer, *Beckwith* 775-778——The importation of bullion is rated by the report of the Master's assayer; the King's assayer does not make his report until the alloy has been added, *Croasdaile* 836-845——There is scarcely ever a case in which the assays of the King's assayer and of the master's assayer disagree, *Bingley* 400-402——No comparison is made between the reports of the King's assayer and the master's assayer until the bullion comes for coinage, *Bingley* 444, 445——The bars are delivered at the Mint to the master's assay-master, and undergo a second assay; Mr. Bingley's assay is unconnected with the Mint, *Marshall* 2412-2415.

The report of the Mint assay is compared with the purchase assay, and delivered to the master's assayer, *Morrison* 261-267——The Bank gain by the Mint assay, because the fractions of each ingot, which cannot be calculated by the King's assayer, are combined when the whole is assayed together, *Morrison* 265-273, *Bingley* 446-452——The merchant who has sold the gold to the Bank loses the difference, *Morrison* 274-283——If the merchant brings his gold direct to the Bank, he has the benefit of any difference in the two assays, *Morrison* 289-291——The calculation of the Mint rests upon the report of the master's assayer, *Morrison* 286-288——Report of the King's assayer to the Master of the Mint, on the necessity of the joint assay of the King's and master's assay-master, relative to the standarding of bullion for coinage, &c., *App. p.* 40.

3. *Fees to Master's Assayer:*

The amount of the fees received by the master's assayer is a matter of regulation between him and the Bank, *Beckwith* 748-750——The fee on assays of silver is generally paid by Government, *Beckwith,* 751, 752——No inconvenience would arise to the public service from the abolition of these fees, with compensation, *Beckwith* 753-758.

4. *Papers communicated by M. Thiers to Earl Granville:*

Practice in the French Mint, as explained in the communication from M. Thiers to Earl Granville, *App. p.* 104——Documens officiels relatifs à la rectification en France du mode d'essai des matières d'or et d'argent, généralement suivi en Europe, *App. p.* 113——Rapport sur le mode d'essai des matières d'or et d'argent employé en France, fait par M. Gay-Lussac, *App. p.* 114——Essais faits dans le laboratoire de la Commission des Monnaies, avec des alliages connus d'argent et de cuivre, *App. p.* 115——Essais faits par les Essayeurs de Paris, les Essayeurs des Bureaux de Garantie et par les Essayeurs Etrangers, *App. p.* 116——Essais faits sous les yeux de la Commission des Essais, *App. p.* 118——

Report, 1837—*continued.*

Assays—4. *Papers communicated by M. Thiers*—continued.

App. p. 118——Extrait du Registre des délibérations de la Commission des Monnaies, 9 Avril 1830, *App. p.* 131——Extrait des Procès-verbaux des séances des Bureaux de Commerce et des Colonies, Mai 1830, *App. p.* 132——Rapport au Roi du Ministre des Finances, *App. p.* 135——Ordonnances du Roi, Juin 1830, *App. p.* 136——Instruction relatif aux procédés suivis au laboratoire des essais de la Commission des Monnaies, pour les essais, contre-essais et vérification des espèces et des matières d'or et d'argent, *App. p.* 138. 178——Table de compensation pour corriger des matières d'argent obtenus par la coupellation, *App. p.* 139–178——Table de compensation pour l'essai des matières d'argent adoptée au laboratoire des essais de la Commission des Monnaies, *App. p.* 134–182 ——Instruction sur l'essai des matières d'argent par la voie humide, par M. Gay-Lussac, *App. p.* 143——Tables servant à déterminer le titre d'un alliage d'argent quelconque, et prenant des poids de cet alliage qui contiendraient toujours la même quantité d'argent pur, *App. p.* 166——Observations sur l'essai des matières d'argent par la voie humide, par M. Gay-Lussac, essayeur au Bureau de Garantie de Paris, *App. p.* 172——Rapport du Ministre des Finances, au Roi, sur le nouveau mode d'essai des espèces et matières d'argent, 6 Juin 1830, *App. p.* 173——Ordonnances du Roi, 6 Juin 1830, sur le nouveau mode d'essai des espèces et matières d'argent, *App. p.* 175.

See also *Bank of England. Parting Assays. Private Assays. Trial Plate.*

Assayers. No person is allowed to act as assayer in Holland, either for the Mint or private parties, without an examination by the Mint Board; when he has received a testimonial from them he is qualified to assay for the trade, *App. p.* 213——Of the Mint of the United States of America; his powers, duties and salary prescribed by Act of Congress, *App. p.* 209.

See also *King's Assay Master. Master's Assay Master.*

Assets and Liabilities. Account of, kept in the service account book, *Ev. p.* 148.

Athelstan. Was the first monarch who made regulations for the government of the Mint, *Atkinson* 1795.

Atkinson, Mr. *Jasper.* (Analysis of his Evidence.)—One of the senior members of the Company of Moneyers; his family have long been connected with it, 1792–1794—— Antiquity and doubtful origin of the company, 1795——The company consists of a provost and senior and junior members, 1796–1801——Since 1713 the Master has had a veto on the appointment of apprentices to the company; Mr. Tierney nominated Mr. Enfield, with their concurrence, 1803–1810——The premium required of an apprentice is 1,000 *l.*; there is no limit to the number, 1811–1818——The company possess landed estates, a working capital, and money in the funds, 1819–1837——There are houses belonging to the Government appropropriated to their use, 1838-1840——No alteration has been made in the contract since 1770, except a reduction of two per cent. in 1820, on introducing the drawbench, 1841–1846.

The duties and contract of the company explained, 1847, 1848——They have an exclusive right to be employed in coining, but the prices are arranged by the contract, and may be altered, 1849-1867——Mr. Bolton wished to undertake to coin some silver, but was not permitted, because the moneyers had a legal claim, 1868, 1869. 1876, 1877 ——In case of a disagreement as to terms between the moneyers and the Master, they would proceed with the coinage subject to a future arrangement, 1870–1875——[Mr. Morrison stated that the Council-office had decided that the moneyers ought to coin the Bank tokens, 1878]——The company would protest against the employment of other persons in coining, 1879–1880——Receipts and expenses of the company, 1770–1781, and 1827–1836; amount of gold, silver and copper coined 1816–1836, 1881—— Explanation of these accounts, 1882, 1883——No economy would result from the union of the melting and moneying contracts, 1884–1887.

Difference of expense in the coinages of France and England, 1888, 1890——This difference accounted for; the director of the French Mint has the whole contract, can buy silver bullion when he thinks fit, and can add alloy in the melting, 1891, 1892—— The machinery and establishment are less expensive, and wages much lower, 1893, 1894 ——The remedies adopted by the French Mint are more extended than our own, both in fineness and weight; they generally work on the worst side of the remedy, 1895–1898——No inconvenience arises from this practice, except the necessity of a recoinage in case the coin should be reduced below the standard weight by use, 1899–1901—— The machiney in the French Mint is so defective that the coin is scraped to the proper weight, 1902–1906——The processes through which the bullion passes in the moneyers' department described, 1907, 1908——The superior accuracy of the English Mint is caused chiefly by the instrument called the drawbench; but the use of this requires great skill, 1909——The moneyers have no interest in departing from the standard; the French contractors have an interest in keeping to the worse side of the remedy, 1910–1913——The English Mint can work faster, but the machinery is very expensive, 1915, 1916——Expense of setting the machinery at work, and of each process in the manufacture,

Report, 1837.—*continued.*

Atkinson, Mr. *Jasper.* (Analysis of his Evidence)—*continued.*

facture, 1917–1921——The old machinery would be more economical for the small coinages, but it would not be worth while to erect it for the purpose, 1922–1925——The moneyers are subject to much robbery and peculation; robberies of Turnbull and Keith, 1926–1934.

[Second Examination.]—Produces return of gold and silver coined, expenses and profits of the Company of Moneyers, &c. from 1816 to 1826, inclusive——Circumstances connected with the appointment of apprentices to the Company of Moneyers; differences between Mr. Fletcher and Mr. Wellesley Pole, 1935–1937——Appointment of Mr. Ommaney approved of by Mr. Wallace, 1938–1941——Appointment of William Nicoll, 1942——There have been only two cases of interference on the part of the Master, one by Mr. Wellesley Pole, the other by Mr. Tierney, 1943–1946——As the moneyers are responsible, the Master ought not to interfere, 1947——The fee is not always the same, 1948——Number of moneyers required for conducting the business of coinage, 1949–1954——Extracts relative to the Company of Moneyers, from the reports of Mr. Garbett in 1783, and of the Finance Committee in 1798, 1955–1959——And from the report of Mr. Wellesley Pole to the Committee of the Privy Council in 1815, 1960, 1961.

Difference between the moneyers and the Master of the Mint as to the liability of the former to repair the slide valve of the steam-engine, 1962, 1963——Witness considers the agreement, out of which this difficulty has arisen, to be sufficiently clear, 1964–1970——It is the duty of the superintendent of machinery to see that the engines are in working order, 1971——It would be impossible to apportion the expenses of coining gold and silver, as they are frequently coined on the same day, 1972, 1973——The director of the French Mint has the whole fabrication of the coin from the beginning of the process to the end, 1974——The coin is pyxed in the same manner as in England, 1975, 1976——The melting is roughly executed in France; the silver is invariably below the standard, 1977–1979——It would not repay the expense if smaller machinery were erected in our Mint; but no coinage should be ordered until a large quantity is required, 1980–1986——Difficulty of preparing a detailed account of expenses, distinguishing wages, repairs, &c.; expenses in wages while the Mint is not working, 1987–2005——Amount of gold and silver coined by moneyers from 1558 to 1830, 2006–2020——The last provincial Mint was in the reign of William III; the profits of provincial Mints, 2021–2024.

The appointment of an apprentice is not final until the approval of the Master of the Mint, 2025.

See also *Sharp Mathison, Morrison* and *Atkinson,* (Analyis of their Evidence.)

Auckland, Lord. Report from the refiner of the Mint on the new process of refining, Sept. 1831, *App. p.* 59——Second report of the refiner to Lord Auckland, suggesting a plan for carrying on the business of the refinery, with reasons for its adoption, *App. p.* 63——His Lordship's report to the Treasury, recommending the establishment of the new system, upon the basis suggested by the refiner, *App. p.* 66——Correspondence between his Lordship and the Governor of the Bank, *App. p.* 67——His Lordship's letter to the Governor of the Bank, explanatory of his new agreement with Mr. Mathison as to the refining, *App. p.* 68——*See* also *Master of the Mint.*

Auditors. Their allowances, (Messrs. Garbett's Report,) *App. p.* 219.

Ausborn, M. (of Altona), Result of his experimental assays of silver, *App. p.* 116.

B.

Bank of England:

1. *Sales and Purchases of Bullion and Coinage.*
2. *Regulations of the Bullion-office.*
3. *Recoinage of Guineas.*
4. *Miscellaneous Papers laid before the Committee.*

1. *Sales and Purchases of Bullion and Coinage:*

For several years have been the only importer of gold into the Mint, because private individuals would lose the interest of their bullion by the delay of coinage, *Morrison* 292–297——They will not buy gold intended for coinage except upon the assay of the King's assayer, *Bingley* 339, 340, *Sharp* 2239, 2240——Average profits of the Bank on the surplus fractions of gold in 100 ingots, *Beckwith* 779–791——The Bank has realized a profit of 50,000 *l.* in 15 years from the return of the assay, or fractional difference between the purchase assay and the assay of the importer, *Atkinson* 1892, 1893——Account of bar gold sent to the Mint for coinage, 1816–1836, with the profit of the Bank on the allowance of the fractions in fineness, which were too small to be reported on each bar, for the benefit of the seller, *Marshall* 2416–2419——The balance of profit over the loss on these fractions was 15,000 *l.*, *Marshall* 2420–2426.

Report, 1837—*continued.*

Bank of England—1. *Sales and Purchases of Bullion, &c.*—continued.

There is a market price for silver and a fixed price for gold, at which bullion is purchased by the Bank, *Haggard* 2345——A piece of each bar is sent to Mr. Bingley at the Mint to be assayed, *Haggard* 2346, 2347——The weight of gold that is sent for an assay, *Haggard* 2366.

The Bank have purchased gold melted in France and Russia, *Sharp* 2168–2171——They do not now receive any which has not been melted by Brown and Brind, *Sharp* 2172——It has long been the practice of the Bank to require gold to be melted by a particular house, *Mathison* 2179-2181——An exception has been made by them in favour of witness since 1829, who refines for them; the only object of a monopoly is to avoid disputes about the assays at the Mint, *Mathison* 2182–2186——During the mastership of Lord Auckland the Bank imported much brittle gold into the Bank that had been melted abroad, *Mathison* 2187–2190.

The Bank price of gold has remained the same since 1828, *Haggard*, 2486——They have offered to purchase any quantity at all times at a fixed price in order to prevent the public from coining, *Haggard* 2485——The transactions of the Bank in bullion are unprofitable; they buy at a fixed price, and do not therefore have it when others will give more, and they cannot sell it higher than the standard, *Haggard* 2505–2508——The whole quantity of gold accumulated by the Bank in 98 months was drawn out in 18 months by one or two persons, *Haggard* 2500–2504.

2. *Regulations of the Bullion Office:*

There are two departments in the Bullion-office, one of which is connected with the Bank only, the other is a deposit office for the accommodation of merchants, *Haggard* 2348–2350——The latter is for the reception of bullion until merchants are able to dispose of it, *Haggard* 2351–2353——The bullion in this office is sent to Mr. Bingley to be assayed, unless a particular request be made by the owner that Mr. Johnson should assay it, *Haggard* 2354–2359——Gold would not be sold at the Bullion-office if Mr. Johnson had assayed it, without informing the purchaser of the fact, *Haggard* 2367–2373——An assay is generally returned from the Mint in two days, unless there is a very great influx of business; they are sometimes returned on the same day if required, *Haggard* 2376–2380——In the Bullion-office the bars of gold are kept in sets of 100 bars, and when required for coinage are delivered to a gentleman from the office of the chief cashier, *Haggard* 2381–2384——The Bullion-office is intended only for the custody of bullion, and for ascertaining its value, *Haggard* 2385.

Bullion is received into the office on the authority of a duplicate broker's ticket sent by the cashier, *Marshall* 2391——It has been the rule for upwards of a century not to receive gold unless assayed by the King's assayer, *Haggard* and *Bingley* 2403–2406——Gold was rejected which had not been assayed by Mr. Bingley; the fact was reported to the governor, and no new instructions were given, *Haggard* 2407–2411——About one-half of the bullion that enters the Bank is taken out again as packages, *Haggard* 2451–2454——No charge is made for the custody of bullion; in France one per cent. is charged, *Haggard* 2509–2512.

3. *Recoinage of Guineas:*

The guineas collected for recoinage did not all pass through the Bullion-office, *Haggard* 2386–2389——They were accumulated in the Treasury, and afterwards placed in the vaults under the custody of the directors, *Marshall* 2390, 2391——If melted into bars they were sent to the Bullion-office; if not they were placed in bags, and the weight checked at the Bullion-office, *Marshall* 2392–2394——The books of the Bullion-office would not show the number of guineas that have been recoined, *Marshall* 2395, 2396——Account of guineas, half-guineas and seven-shilling pieces melted by the Bank since 1816, *App. p.* 234.

4. *Miscellaneous Papers laid before the Committee:*

Return of the number of gold ingots imported by the Bank into the Master's assay office for coinage from 1816 to 1835 inclusive, together with the difference of the master's assayer's report and the importer's assay, *App. p.* 234——The Bank of England have signified their intention of applying the new refining process to all their future purchases of the precious metals, (Refiner's Report,) *App. p.* 65——Letter from the governor, *App. p.* 68——Quantity of bullion purchased of the Mint, being the remainder of that bought of Mr. Rothschild, for the coinage of crown pieces, *App. p.* 90——Their testimony in 1782, to the punctuality and attention of the Mint officers, (Messrs. Garbett's Report,) *App. p.* 216——The Master of the Mint's account at, viz. Exchequer credit-book and cash-book kept by Mr. Capes, *p.* 148.

See also *Assays. Brown* and *Brind. Coinage. Dollars. Gold. Mocatta* and *Goldsmid. Refining. Rothschild,* Mr. *Weight.*

Barton, John, Esq. The moneyers agree to reduce their charges for coinage two per cent. in consequence of machinery invented by him, *App. p.* 20——The melter makes a deduction

Report, 1837—*continued.*

Barton, John, Esq.—*continued.*

deduction of two per cent. for melting for the same reason, *App. p.* 24——His report to the Master on several matters connected with the Mint establishment, *App. p.* 31——Amount paid him by Treasury Order for the invention of the drawbench, *App. p.* 231.

Barton, Mr. *William Henry.* (Analysis of his Evidence.)—Deputy-comptroller of the Mint; the office of comptroller is a sinecure, and will be abolished on the death of Mr. Tekell, 455–458——Duties of his office enumerated, 459, 460——Salary and emoluments, 461–474——Evidence respecting the melter's right to the benefit of the excess of alloy in the stopped pots, 476–481——Amount of alloy in the scissel pots, 1835, 1836, 482–495——Profits arising from water-silver on the first requisition made by the present King's assayer; witness objected to the charge, 496–509——The agreement made between the Master of the Mint and the Company of Moneyers should be made more distinct, 510–513——The repairs of the machinery are done at the expense of the moneyers; new machinery is provided by the public; a dispute has arisen as to who shall bear the expense of the slide valve of the steam-engine, 514–522——The rollers have sometimes been broken, and repaired by the moneyers, 523, 524——The Mint indenture should be revised in language, but the same conditions are preferable to regulations of Government, 525–530——Expenses of repairing machinery since 1814; Mr. Brande, superintendent of machinery, reports when any repairs are necessary, 531–533——The repairs are made partly by persons on the establishment, partly by others; when the Mint is at work they are under the moneyers; at other times under the superintendent of machinery, 534, 535——Mr. Field, the weigher and teller, is one of these, an excellent workman, 356–542——The expenses are controlled by the deputy-master, the comptroller and King's clerk, who in doubtful cases submit the question to the Board, 543, 544.

The mode of settling the proportion of wages to be paid by the Mint and by the moneyers; difficulty of construing the terms of the agreement, 545–554——The business of the moneyers is liable to great fluctuations; manner in which extra labourers are paid, 555–567——Robberies have taken place by the workmen, but the moneyers and melter have suffered the loss, 568–570——The extra labourers are employed to handle bags of coin, which are tied up, but it is impossible to prevent pilfering altogether, 571–574——The old dies should be defaced more speedily and effectually than they are at present, both to prevent the striking of counterfeit coin and the making of imperfect money, 575–581——A new mode of polishing the dies should be adopted, 582——The system of double entry has been introduced as an experiment but is not applicable to the account rendered by the Master to the Audit Board, 583–585——The business of the commissariat department has produced a great increase of duty in keeping accounts, 586——The accounts of the check department are complete, 587, 588.

Evidence respecting the comptrollment roll; a return of the gold and silver coined is made upon oath, before one of the Barons of the Exchequer, 589-596——The operations of the Mint would be less interrupted if a fund were established to enable the importer of bullion to receive part of the value in coin immediately, 597–600——Examination as to the inducement this would be for merchants to have their bullion coined for exportation; means of preventing such a practice by affixing a seignorage equivalent to the interest on the gold during the delay of coinage; expense to the Government, 601–627——The rate of expense at which gold is coined is rather less than one-half per cent.; in France, in consequence of the cheapness of labour, it is coined at less than one-quarter per cent, 628–636——The melting and coining are managed under the same contract in France, 636——In America there is a melter and chief coiner who have allowances for the waste on the manufacture, 637, 638.

[Second Examination.]—The fees on private coinages are received under the authority of Lord Maryborough, 799-801——Examination respecting fees on colonial coinages, 802–809——Explanations of his former evidence on water-silver, and Mr. Field's emoluments, 810–822.

[Third Examination.]—The principle upon which the payments of the artificers are apportioned to the Government and to the moneyers, 901–905.

[Fourth Examination.]—The difference between the purchase standard (weight) and the Mint standard is the profit of the public, 997, 998——If the purchase standard should exceed the Mint standard, short weight would not be received, 999–1002——As the King is the importer of silver, he gets the full value; the importers of gold bullion get the actual value as well, 1003, 1004.

[Fifth Examination.]—It has been the custom to give the melter the benefit of the alloy added to the scissel pots, 1415–1421——Expediency of continuing it; the delay that would be occasioned by the plan proposed by witness, 1422–1429.

[Sixth Examination.]—Examination relative to the custody of the controlment rolls, 2026, 2027.

See also *Mathison, Barton, Bingley* and *Morrison.* (Analysis of their Evidence.)—*Bingley* and *Barton.* (Analysis of their Evidence.)

Beckwith, Mr. *John Malebysse.* (Analysis of his Evidence.)—Has been master's assayer for 27 years, 732, 733——The office of King's assayer was offered him, 734——Duties

Report, 1837—*continued.*

Beckwith, Mr. *John Malebysse.* (Analysis of his Evidence)—*continued.*

of his office, 735——Salary, fees and emoluments, 736-747——The amount of the fee on each assay is a matter of regulation between him and the Bank, 748-750——The fee on assays of silver is generally paid by Government, 751, 752——No inconvenience to the public service would arise from the abolition of these fees with compensation, 753-758——Number of assays that have been completed in a week, 759-774——Mode of comparing the assays of the King's assayer and his own, 775-778——The average profit of the Bank on the surplus fractions of gold in 100 ingots, 779-791——The allowance of water-silver to the master's assayer should be discontinued, with compensation, 794-796.

Benoît Fould, M. Member of the commission appointed by the French minister of finance for inquiring into the mode of assaying, *App. p.* 115.

Bingley, Mr. *Henry.* (Analysis of his Evidence.)—Succeeded his father as King's assay-master, January 1836, 312-315——The office is described as having existed in the time of Henry the Third, 316——His duties, 317——His salary; when reduced, 318-321——He has always had the privilege of making private assays with public materials, and the precipitated silver is his perquisite, 322-331——The fees received for these assays are considered private, but an account was returned to the House of Commons, 332-334——The greater proportion of bullion that he assays never comes to the Mint for coinage, 335-338——The Bank will not buy gold intended for coinage except upon his assay, 339, 340——He reports the quantity of gold or relative quantities of gold and silver, 341-348——The fee for assaying an ingot of gold was raised, in 1814, from 3*s.* to 5*s.*, and reduced by witness to 4*s.*, 349-359——For an ingot of silver, 2*s.* 6*d.*, 360-365——The cost of office materials for one year in assaying, including everything but the charcoal, acids and water-silver, 366-375——The charge of private assayers is considerably less; those made by the King's assayer are not settled by the public, 376-380——Mr. Lucas would not make assays for private individuals, and they were undertaken by the master's assayer, 381-384.

Accuracy and dispatch are secured by the private assay of the King's assayer, 385-389——An additional examination by the master's assayer might be substituted, but this would not insure equal accuracy, 390, 391——It would be impossible for the King's assayer to perform his check duties if he were to examine officially the ingots at the time of the coinage; they are frequently assayed some years before, 392-399——There is scarcely ever a case in which the assays of the King's assayer and of the master's assayer disagree, 400-402——The greater part of the private assaying in London was done by the late King's assayer; his assays preferred, 403-408——Witness also has the assistance of the public servants in his private assays, 409-414——Sums arising from private assays for the last 15 years on gold and silver, 415-423——The water-silver is bought of Brown and Brind, and sold to them again when used, at a loss of 25 per cent., 424-430——The charge for assaying is made without reference to weight, 431-434——There is no communication between the King's assayer and the master's assayer on private assays, 435-443——A comparison is made between the two reports when the bullion comes for coinage, 444, 445.

The Bank gains by the addition of fractional quantities at the Mint which are not calculated in the assay upon which the gold is purchased, 446-452——The King's assayer is not governed by the charges of other assayers; if the charges were reduced, a greater consumption of office materials would be the consequence, 453, 454.

[Second Examination.]—Explanations with reference to Mr. Barton's evidence on the propriety of allowing water-silver to be the perquisite of the King's assayer; value of silver recovered for 15 years, 639-646——The blue liquor is the perquisite of the chief fireman, and amounts to 10*l.* a year, 647-652——The account of witness's duties laid before the Committee is imperfect, 653-655——Number of assays that can be executed in one day, 656-659. 664, 665——Expense of each assay, 660-663——The report of the assayer declares what the ingot contains with reference to a fixed standard, 666, 667——The trial plate is manufactured by the Goldsmith's Company; the silver trial plate, previous to the present, was a pennyweight and a half too fine, 668-677——Since this was discovered, no trial plate is used until its accuracy is reported by the King's assayer; inaccuracies were discovered in some of the gold trial plates, 678-686——Several were known by the officers of the Mint to be inaccurate, and were never used, 687-691——The difficulty of attaining an accurate standard arises from the proportions of mixed metals being varied by the fire, 692-699. 704——Accuracy is secured by the present system, and the gold trial plate will last 100 years, 700-702——The nature of the alloy has been changed from silver and copper to copper only, for the purpose of extracting the silver from sovereigns, 705, 706——A cheap mode of doing this was discovered, and no sovereigns with silver are now in circulation, 707-714——Process of separating silver from gold and gold from silver, 715-717——An assay determines the quantity of fine gold or silver contained in mixed metal; a parting assay, the quantity of silver in combination with gold or gold with silver, 718-722——Charges for parting assays, 723-729——Assaying is very unhealthy, 730, 731.

Bingley,

Report, 1837—*continued.*

Bingley, Mr. *H.* and Mr. *Morrison.* (Analysis of their Evidence.)
[Mr. *Bingley.*]—The operations of the Mint were as expeditious as usual with respect to Mr. Sharp's coin, 2558, 2559——They can be as rapid in the Assay-office as in any other, 2560–2563——The pyx-days have been fixed by the Board with reference to the demands of the Bank, but might be altered to suit private importers, 2564–2567——If the Mint had a fund in hand, an importer could receive the value of part of his bullion at once, 2568–2571.
[Mr. *Morrison.*]—Account respecting the coinage of Mr. Sharp's bullion, with explanations, 2572–2576——Account of importations and deliveries of gold bullion in December 1825, showing the shortest time in which bullion can be coined, 2577–2579——Pyxes were then taken every day to prevent delay, 2580, 2581.
[Mr. *Bingley.*]—No fee is paid to the King's assayer on the importation of bullion if it has been already assayed by him, 2582–2587——Statement respecting the assays of the King's assayer, 2588.

Bingley, Mr. *H.* and Mr. *Barton.* (Analysis of their Evidence.)
[Mr. *Bingley.*]—Proposes and explains certain regulations respecting alloy and stopped pots, &c., 2586–2592.
[Mr. *Barton.*]—Entirely agrees with Mr. Bingley, whose plan would not interfere with any legal right which the importer of bullion now has, 2593–2601.
[Mr. *Bingley.*]—Further examination as to his proposed regulations, 2602–2611——The coin is a shade better than the standard plate; if these regulations were enforced it would be exactly standard, 2612–2615——Whether the master's assayer should be paid by salary, 2616–2621——Further examination respecting the effects of the proposed regulations, 2622–2632.
See also *Mathison, Barton, Bingley* and *Morrison.* (Analysis of their Evidence.)

Bingley, Mr. *H.* His report to the Master of the Mint on the necessity of the joint assay of the King's and master's assayers, *App. p.* 40——Second report, being in reply to the recommendations of the comptroller and King's clerk respecting water-silver and alloy, *App. p.* 46——Remarks on the state of gold and silver trial plates with reference to alterations in the fineness of new trial plates, *App. p.* 78——His letter on the alteration in the silver trial plate, *App. p.* 85——His replies to the queries of the Master of the Mint on the inaccuracies in coins and standard trial plates, *App. p.* 241.
See also *Assays. Bank of England. Trial Plates.*

Birmingham. See *Sheffield* and *Birmingham Diets.*

Birmingham Assay Office. Value of gold and silver trial plates directed to be delivered thereto in 1830, *App. p.* 245.

Blue Liquor. Recovered after the process of assaying as the perquisite of the chief fireman, and amounts to 10*l.* a year, *Bingley* 647–652.

Board, The. Is composed of the master, deputy-master, comptroller, King's assay-master, King's clerk and the superintendent of machinery, *Morrison* 9——Meets every Wednesday; everything connected with the government of the Mint is brought under their consideration, *Morrison* 46, 47——That part of the indenture read by which the Board is constituted and their duties defined, *Morrison* 78, 79——Witness takes minutes as secretary to the Board, and enters the names of those who attend, *Croasdaile* 864–869——There is much correspondence of which the Board has no cognizance, and which is therefore not entered, *Croasdaile* 870–874——The minutes of their proceedings are not very full; the ordinary routine is not entered in their books, but duplicates of all requisitions signed by them are preserved, *Morrison* 48–69——It is important that more perfect minutes should be taken, but there is no secretary to the establishment, *Morrison* 80–85——Officers who are to compose the Board, their duties and powers defined, (Indenture,) *App. p.* 17.

Board of Works. See *Repairs.*

Bone Ash. Value thereof supplied to the King's assayer and master's assayer, from 1821 to 1835, inclusive, *App. p.* 93.

Bonneville, Mr. (of Paris.) Result of experimental assays made by him in 1829, *App. p.* 116.

Books. Statement of the books and accounts of the Mint, *p.* 146.

Brande, Mr. *W. T.* (Analysis of his Evidence.)—Clerk of the irons and superintendent of the machinery, 875–877——Is a member of the Board; his salary and emoluments, 878–883——His duties, with reference to the manufacture and custody of the dies, 884——As superintendent of the machinery, it is his business to see that all the machinery is in working order, and that the engineers and artificers do their duty, 885–888——The regulations with regard to the liability of the Mint or the Company of Moneyers to repair, is not prescribed with sufficient clearness in the indenture, 889–891——The artificers are paid partly by the Mint and partly by the Company of Moneyers, 892–900——

Report, 1837—*continued.*

Brande, Mr. *W. T.* (Analysis of his Evidence)—*continued.*

The great majority are paid entirely by the moneyers, 906–909——Difference in the duties of those paid partly by each, and those in the sole employ of the moneyers, 910–914——Number of the former class and the annual sum paid them, 915, 916——If all the artificers were on the same footing it would simplify the proceedings in the Mint, 917, 918.

A dispute has arisen as to the liability of the Company of Moneyers to pay the expense of a new slide to the steam-engine, 919–921——Witness conceives that the Government is liable, because the old slide was repaired by the moneyers, and that which is substituted is a new piece of machinery, 922, 923——It would be a great convenience if the several offices of the die department were together, 924–934——No dies have been purloined or removed, but great vigilance is necessary to prevent them being mislaid, 935–937——Mr. Wyon is chief engraver, Mr. Merlin, assistant-engraver; the latter generally makes the reverses of the coin, 938–946——The punches and dies are kept in the Board-room under the charge of the chief engraver and comptroller, 947–949——In Paris and at Milan the ancient dies are catalogued and are accessible to all persons on proper application; this might be done without difficulty in our Mint, 950–960——A plan of the foundation of the Mint exists in Mr. Smirke's office, but witness has not been able to procure it, 961–967——The solicitor of the Mint is considering the question relative to the machinery; the opinion of counsel will be taken, 968, 969——All the workmen in the die department are under witness's charge; some are partly under the directions of Mr. Wyon, 970–976.

[Second Examination.]—The manner in which the number of dies delivered to the surveyor of money-presses are accounted for, and the checks used to prevent their abstraction for other purposes, 1132–1140——Breakages of the dies are less frequent now in consequence of the improved manufacture of the steel, 1141–1145——This steel is made by Huntsman of Sheffield, 1146–1149——The French Mint do not use steam power; working by hand is superior in execution, but less expeditious, 1150–1163.

Brande, Mr. Report to the Master of the Mint on the duties and business of the office of superintendent of machinery, *App. p.* 49.

Brazilian Mining Company. See *Imperial Brazilian Mining Company.*

Brazils. See *Gold.*

Breaking down. A technical term for the process of reducing, by severe pressure, the bars which come from the melting-house, to the thickness of an inch, *Atkinson* 1907.

See also *Melting.*

Brind. See *Brown* and *Brind.*

Brittle Gold. Pure gold is fit for coinage and is not brittle when mixed with alloy, *Johnson* 2291.

See also *Bank of England. Bullion. Refining.*

Brokerage. Account of the appropriation of sums charged as brokerage, paid by the deputy-master for the purchase of bullion in 1835; rate of brokerage and amount paid to each broker, *App. p.* 72.

Brougham, Lord. See *Pyx.*

Brown and Brind. The Mint only receive gold that has been melted by Brown & Brind, or other melters whose skill is known, *Sharp* 2167——The Bank will not purchase any gold unless it has been melted by them, *Sharp* 2172——They are the only melters for the Bank; merchants and importers of bullion are desirous of having the option of employing other establishments, *Johnson* 2271–2274——A petition to that effect was presented to the Bank, *Johnson* 2275–2279——They are employed to prevent fraud; they have discovered large pieces of iron in bars that have been melted abroad, *Haggard* 2440–2450——The bars containing iron had a South American mark and had not been assayed in England, *Haggard* 2455, 2456——Proposal that no bullion be received at the Mint unless melted by them or the melter of the Mint, *Bingley* 2589, 2625–2628.

See also *Bank of England,* 1. *Water Silver.*

Buchanan, J. Esq. Letter from Mr. R. M. Patterson to, on the subject of the Mint of the United States of America, *App. p.* 208.

Buckhan, Mr. *John.* (Analysis of his Evidence.)—Surveyor of meltings; was formerly second clerk and probationer melter, 1020–1024——Salary, fees, and emoluments, 1025–1032——His duty is to act throughout as a check upon the melting department on the part of the Mint, 1033–1036——The duties assigned to each officer are extracted from the indenture and given to him, 1037——The manner of distributing the metal into the different pots explained, 1038–1039——Witness has no official knowledge of the difference between the master's assayer's report and the actual value of the ingot, 1040–1045——When copper is put into the gold or silver, the quantity of gold or silver gained is equal to the alloy, 1046–1048——This surplus is the profit of the melter, 1049, 1050.

Report, 1837—*continued.*

Buckhan, Mr. *John.* (Analysis of his Evidence)—*continued.*

The melter's ends are the scrapings of pots, clippings of bars, &c.; vigilance must be exercised to prevent inferior metal from being introduced with them into the scissel pots, 1051–1058——Witness has no control over the fineness of the metal, the pot-book is conclusive, 1059–1062——The melter's ends are collected and locked up in witness's custody; nothing but standard metal can therefore be amongst them, 1063–1067——There is a difficulty arising from the undefined authority of witness and the melter; witness has never complained to the Board; fines should be imposed for any irregularity, 1068–1096——There is a reluctance on the part of officers of the Mint to complain to the Master or the Board, 1097–1100.

Buildings. A plan of the foundations and buildings of the Mint is in Mr. Smirke's office, but witness has not been able to procure it, *Brande* 961–967.

See also *Repairs.*

Buller, John, Esq. Average of his clear yearly profit as comptroller of the Mint, (Messrs. Garbett's Report,) *App. p.* 218.

Bullion. The gold and silver are sometimes very good and ductile and can be worked extremely well, at other times they are brittle, and much flies away in the working, *Atkinson* 1907–1914——The price of bullion in different countries has been equalized since the establishment of the two extensive houses for exchange, *Haggard* 2499, 2500.

Regulations respecting the custody and transfer of bullion in the Mint of the United States of America, *App. p.* 210.

See also *Bank of England. Coinage. Exportation. Gold. Melting. Scissel. Silver.*

Bullion Brokers. Charge 35*s.* for effecting the sale of a gold ingot of 15 lbs. weight, *Bingley* 2588.

Bullion Office. See *Bank of England,* 2.

Bullion Porter. His duties, *Pearson* 1446——Salary and fees, *Pearson* 1447–1465——No fees of a similar nature are paid to other officers of the Mint; his own have been suspended by the Bank, *Pearson* 1472–1477——Authority under which these fees are paid, *Morrison* 1466–1471——He attends all importations and weighing, *Pearson* 1496–1499——He takes charge of the stationery, and distributes it under the directions of the Board, *Pearson* 1502–1508——Amount of fees received by him on account of private coinage in each year, from 1816 to 1836, *App.* p. 94.

Busson, Mr. *William.* (Analysis of his Evidence.)—Surveyor of money presses and coins; salary and emoluments, 1101–1106——His duties; during the coinage he attends to see that the money is perfect, 1107–1114——He has the custody of the dies during the time they are in use, and accounts for them to the clerk of the irons, 1115–1131.

C.

Cabrera, D. Miguel (of Madrid). Result of his experimental assays of silver, *App. p.* 116.

Cadogan, Lord, as Master of the Mint, held the contract for the meltings, which formed one of the main sources of his profits on the gold coinage between 1773 and 1777, *App. p.* 4——Particulars of the indenture between the King and his Lordship in 1770, (Messrs. Garbett's Reports,) *App. p.* 216——Profits and perquisites of his Lordship on all gold coined, and upon the melting, &c. *App. p.* 216——Average of the clear yearly profits of his Lordship as Master and worker of the Mint, (Messrs. Garbett's Report,) *App. p.* 218——His profits upon the coinage of 200 tons 19 cwt. of copper into halfpence and farthings between 1 June 1769 and 31 Dec. 1781, (Messrs. Garbett's Report,) *App. p.* 222——And upon 140 tons of copper for Irish halfpence during the same period, *Ib.* 222.

Capes, Mr. Statement of books and accounts kept by, *Ev. p.* 148

Carolina, North. See *North Carolina.*

Cash Accounts. See *Accounts. Books.*

Cash Book. In consequence of a communication with Mr. Brooksbank the system of double-entry has been adopted at the Mint, as far as relates to the cash receipts and payments, (Deputy Master's Report,) *App. p.* 30. *See* also *Subsidiary Accounts.*

Cash Journal and Ledger and Service Book. Kept on the system of double-entry; what they contain, *Ev. p.* 147.

Castenholz, F. de (of Vienna). Result of his experimental assays of silver, *App. p.* 116.

Cent and Half Cent. Copper coins in the United States of America, being in value the 100th and 200th part of a dollar, *App. p.* 210.

Report, 1837—*continued.*

Chancellor of the Exchequer. Directs proper offices to be prepared for the trial of the pyx, and orders the standard weights and trial pieces to be produced, *Morrison* 2028.

Chaptal, S. S. le Compte. President of the commission for inquiring into the mode of assaying, appointed by the French minister of finance, 1829, *App. p.* 115.

Charcoal. Return of the value thereof supplied to the King's assayer and master's assayer in each year from 1821 to 1835 inclusive, *App. p.* 93——Cost thereof during the 12 years from 1770 to 1782, (Messrs. Garbett's Report,) *App. p.* 218.

Charles the Second. Degrees which the gold coin was worse than standard during his reign (Messrs. Garbett's Report,) *App. p.* 219.

Chaudet, M. Result of experimental assays made by him in the presence of the commission appointed by the French minister of finance in 1829, *App. p.* 118–121.

Check Department. Composed of the comptroller, King's assay-master, King's clerk and clerk of the papers, surveyor of melting, surveyor of the money presses, weigher and teller, and clerk of the irons, *Morrison* 102——They inspect all processes of coinage and accounts, *Morrison* 102–105. 124, 125——Salaries not raised since 1702, with few exceptions, *App. p.* 1——Recommendations of Mr. Wellesley Pole in 1815 for improving it, *App. p.* 3.——*See* also *Accounts. Copper Coinage.*

Checks. Examination as to the necessity of continuing all the checks now observed in the Mint, *Mathison* 1354–1358.

Chester Assay Office. Value of gold and silver trial plates directed to be delivered thereto in 1830, *App. p.* 245.

Chetwynd, Right Hon. *William.* Master of the Mint; his communications with the Company of Moneyers on the appointment of apprentices, and concerning James Collard, proposed by the moneyers, *Atkinson* 1935.

Chevillot, M. Result of experimental assays made by him in the presence of the commission appointed by the French minister of finance, in 1829, *App. p.* 118–121.

Chief Coiner. Of the Mint of the United States of America; his duties, powers and salary, *App. p.* 209–211.

Chief Engraver. See *Engravers.*

China. See *Silver.*

Clancarty, Lord. See *Refining Apparatus.*

Clerk of the Irons. Has the care of all the matrixes, puncheons and dies, and keeps an account of them, which is examined by the deputy-master and comptroller, *Morrison* 122, 123——His duties with reference to the manufacture and custody of dies, *Brande* 884 ——Recommendation of Mr. W. Pole that he should superintend the die press room and supply new dies when required, and that his salary should be increased, *App. p.* 3 ——Amount received by him on account of private coinages, in each year, from 1816 to 1836, *App. p.* 94.

See also *Check Department. Superintendent of Machinery. Surveyor of Money Presses.*

Clerk of the Papers. See *Check Department. King's Clerk and Clerk of the Papers.*

Clerk of the Warden. Average of the clear yearly profits of the office, while held by Edward Eastland, *App. p.* 218.

Clerks. Their duties, *Morrison* 172–175——Their hours of attendance and responsibility, *Morrison* 1198–1203——They are generally promoted by seniority, *Morrison* 1173–1175 ——The highest salary is 200*l.* a year, the lowest two guineas a week, *Morrison* 1176–1180——The extra clerks are now considered permanently on the establishment, and entitled to a superannuation allowance, *Morrison* 1185–1191.

Their letter to Mr. Labouchere, calling his attention to a petition presented by them to Lord Ashburton for an increase of salary, *App. p.* 69——Comparison of the scale of salaries of the Mint clerks with those of the Ordnance department and paymaster of civil services, *App. p.* 69——Amount of fees received by the first, second, first extra and second extra clerks, on account of private coinages, in each year, from 1816 to 1836, *App. p.* 94.——*See* also *Portuguese Coinage.*

Coals. See *Machinery. Private Assays.*

Report, 1837—*continued.*

COINAGE:

1. *Generally.*
2. *Delays at the Mint.*
3. *Papers laid before the Committee.*

1. *Generally:*

The whole process described from the time an ingot is imported into the Mint until it is issued in money, *Morrison* 198——Amount of gold and silver coined, with the receipts, expenses and profits of the Company of Moneyers, from 1816 to 1826, inclusive, *Ev. p.* 134——Amount of gold, silver and copper coined, from 1816 to 1836, with receipts, expenses and profits, *Atkinson* 1881——Quantity of money coined at the Mint in the nine months between 5th June 1816 and 4th March 1817, *Atkinson* 1924, 1925——The weight and value of all gold and silver coined by the moneyers, from 1558 to 1830, *Atkinson* 2019.

The rate of expense at which gold is coined is less than one-half per cent.; in France, in consequence of the cheapness of labour, the cost is less than one-quarter per cent., *Barton* 628-635——In France, the expense of coining gold is one-quarter per cent., in England it is a fraction less than one-half; in silver, it is one per cent. in France, in England it is less than 2 ⅛ per cent., *Atkinson* 1890——It would be impossible to apportion the expenses of coining gold and silver, as they are frequently coined on the same day, *Atkinson* 1972, 1973——Difficulty of preparing a detailed account of expenses, distinguishing wages, repairs, &c.; expense in wages while the Mint is not working, *Atkinson* 1987–2005——The public ought not to have the option of coining, which compels the Bank to give a higher price for gold than they would otherwise give, *Haggard* 2534-2557.

2. *Delays at the Mint:*

Delay which took place in the coinage of bullion sent to the Mint by witness, and the consequent loss of interest, *Sharp* 2060–2072——The coinage could be completed in 10 days, with proper security to the importers and the public, *Sharp* 2073–2080——If witness's money had been delivered in 10 days, instead of sustaining a loss he would have made a profit, *Sharp* 2081, 2082——There would have been less delay if a sufficient quantity of bullion had been imported to set the machinery at work, as the Mint is adapted to large coinages, *Sharp* 2094, 2095——Explanation of circumstances connected with the coinage of the gold belonging to Messrs. Sharp, *Morrison* 2250, 2251——Account showing the progress made in the coinage of Mr. Sharp's bullion; the several deliveries, &c., with explanations, *Morrison* 2572–2576——Account taken from the Mint ledger of the importations and deliveries of gold bullion in December 1825, showing the shortest time in which ingots have been coined, *Morrison* 2577–2579——Pyxes were then taken every day to prevent delay, *Morrison* 2580, 2581——In the importation of Mr. Sharp, the object of the experiment would not have been attained if more expedition had been made, *Bingley* 2558, 2559.

Without reducing the scale of the machinery, greater expedition might be attained by diligence in the different departments of the Mint, *Sharp* 2096–2101——It was formerly the practice to give the importer a part of the value of his bullion immediately, *Sharp* 2106, 2107——This was an accommodation to the trade and an encouragement for coining, *Sharp* 2108–2112——Evidence respecting the inducement this would offer to the exportation of coin instead of ingots, *Sharp* 2113–2122——Relative convenience and utility in the trade of coin and bullion for exportation, *Sharp* 2123–2136——If facilities were afforded for small coinages, less bullion would be sold to the Bank, *Sharp* 2149–2152——The present restrictions impede the increase of gold coin, *Sharp* 2153, 2154——Commercial transactions in bullion would be facilitated by a speedy exchange of small quantities of bullion for coin, *Sharp* 2155-2159——No delay whatever takes place with the moneyers; the bars are put into work immediately they are received from the melter, *Atkinson* 2197——If gold were received at ten o'clock in the morning, 50,000 sovereigns could be delivered on the following day at the same hour, *Atkinson* 2198——Evidence as to the shortest time in which gold has been coined at the Mint, *Morrison* 2219–2224.

No inconvenience has arisen from delay in obtaining coin for the bullion sent from the Bank, *Marshall* 2427——If the Mint had a fund in hand, an importer could receive the value of part of his bullion at once, *Bingley* 2568–2571——If the public could have their bullion coined immediately, they would only coin when profitable to them, and the supply of money would therefore be irregular, *Haggard* 2474–2476——Facilities for coinage would not raise the price of gold; the profit of coining is little more than that of sale at the market price, *Haggard* 2477–2479.

3. *Papers laid before the Committee:*

Expenses, waste provisions, &c. to be paid by the Master of the Mint, (Indenture,) *App. p.* 17——Schedule of prices to be allowed for the coining of every pound weight troy of gold and silver monies, *App. p.* 18——Suggestions for altering that part of the indenture which defines the rates of charge for coining, (Deputy Master's Report,) *App. p.* 29——The expenses of the gold coinage only are voted; the silver and copper are paid out of the profits of coinage; an estimate of each should be prepared, (Deputy

Report, 1837—*continued.*

Coinage:—3. *Papers laid before the Committee*—continued.

Master's Report,) *App. p.* 29——Proposed alteration with respect to the mode of carrying to account the profits on silver and copper coinage, with explanation of the present system, (Deputy Master's Report,) *App. p.* 30.

Account of the application of the sums in 1835 for coinage, stating the amount paid to each person, for what service paid, and under what authority, *App. p.* 71——Account of the gross charge by indenture and Treasury authority for the coinage; sums paid thereout to the moneyers and melter; for the Master's fees, and surplus remaining for contingent expenses, from 1816 to 1837, *App. p.* 70——Return of the several items of charge for the coinage of gold, silver and copper monies in 1835, stating the number of pieces of each denomination coined, the rate of charge, and the amount charged for each kind, *App. p.* 71——Account of all gold, silver and copper monies coined at the Mint from 1st January 1816 to 31st December 1836, specifying the weight, number of pieces and value of each denomination of money coined yearly, and the total value of the respective coinages in each year, *App. p.* 224.

Statement in detail of the amount paid to the moneyers and to the melter in each year, from 1816 to 1837, on gold, silver and copper coinages, *App. p.* 228——Statement of the manner in which the surplus rates on coinage, after paying the moneyers, melter, Master's fees, and officers' allowances on private coinage, has been appropriated since 1816, *App. p.* 232——Return of the power of the Mint as to coinage, if required, for the ordinary hours; distinguishing gold, silver and copper coinages, *App. p.* 77——Remarks on the expenses of manufacturing gold bullion into coin, (Messrs. Garbett's Report,) *App. p.* 217——Comparative statement of the rates of coinage in the French and English Mints, *App. p.* 87——Frais de fabrication des monnais d'or et d'argent; rapport du Ministre Secrétaire d'Etat des Finances au Roi; Ordonnance du Roi, &c. 25 Février 1835, *App. p.* 204.

See also *Bank of England. Coinage Fund. Copper Coinage. Crown Pieces. Exportation. French Mint. Gold. Gold Coinage Fund. Melting. Moneyers,* Provost and Company of. *Pyx. Silver. Steam Power.*

Coinage Fund. Provision is made at the Mint of the United States of America for reserving a deposit of public money, out of which the importers of bullion may receive its full value as soon as the same may be ascertained, *App. p.* 212.

See also *Gold Coinage Fund.*

Coins. Statement of the deficiency in weight of the shillings and sixpences in circulation in 1782, (Messrs. Garbett's Report,) *App. p.* 221——The devices and inscriptions on the coins of the United States of America, as prescribed by Act of Congress, *App. p.* 210.

See also *Gold.*

Coining Room. Contains the machinery and apparatus for working the presses for stamping the monies, *Ev. p.* 150.

Colonial Coinages. Examination respecting fees received by officers of the Mint on colonial coinages, *Barton* 802–809.——*See* also *Private Coinages.*

Collard, James. See *Chetwynd,* Right Hon. *W.*

Collusion. See *Alloy.*

Commissariat Department. Since 1835, the duty of purchasing bullion for the commissariat, previously performed by Mr. Sargent, has been imposed upon the deputy-master who has employed Mr. Mocatta as broker; accounts of purchases, &c., *Morrison* 86–101.

Commissary-general. See *Fees.*

Commissioners for Auditing Public Accounts. See *Accounts, Public,* Commissioners for Auditing.

Comptroller. The office is a sinecure, and will be abolished on the death of Mr. Tekell; the duties are performed by the deputy-comptroller, *Barton* 455–458——His duties enumerated, *Morrison* 106, 107, *Barton* 459, 460——Salary and emoluments, *Barton* 461–474.

His office of great importance; should be the main check on the Master in his receipts of bullion and accounts, *App. p.* 2——To deliver upon oath before one of the Barons of the Exchequer a roll, which shall be called the comptroller's roll, containing an account of all gold and silver coined monthly, *App. p.* 17——Amount of fees received by him on account of private coinages in each year, from 1816 to 1836, *App. p.* 94——Average of the clear annual profits of the office while held by Mr. Buller, (Messrs. Garbett's Report,) *App. p.* 218.

His report to the Master on several matters connected with the Mint establishment, *App. p.* 31.——*See* also *Board. Check Department.*

Comptrolment Roll. Is sent to the Audit-office; the accounts contained therein specified, *Barton* 589–595——The roll itself is delivered into the Audit-office, copies are preserved in the books of the Mint-office, *Barton* 2026, 2027——Kept by Mr. Barton, the comptroller,

Report, 1837—*continued.*

Comptrolment Roll—continued.

troller, and shows the weight, value and denomination of the monies coined, *Ev. p.* 147——The clause in the indenture requiring the comptroller to produce the roll on oath before one of the Barons of the Exchequer should be omitted, (Comptroller's Report,) *App. p.* 34.——*See* also *Comptroller.*

Consolidated Fund. Deficiencies in the Master's fees granted out of the Consolidated Fund for the payment of the salary, in each year from 10th October 1815 to 5th April 1837, *App. p.* 231.

Contingent Expenses. Surplus arising from the coinage of gold, silver and copper monies in each year since 1816, applied to the contingent expenses of the Mint establishment, *App. p.* 70.——*See* also *Incidental Expenses.*

Copper. The system of weighing copper was introduced in 1822, and the duty imposed on the weigher and teller, *Field* 1017, 1018——To be purchased from time to time by the treasurer of the United States Mint in planchets fit for immediate coinage, *App. p.* 212.

See also *Alloy.*

Copper Coinage. Saving by the abolition of fees to the check officers formerly paid on copper coinages, *App. p.* 9——Weight coined in 1835; number and denomination of pieces; rate of charge, and total amount charged, *App. p.* 71——Return of the charge of copper coinage per ton, and how the charge is distributed, *App. p.* 95——Statement of the actual costs and profits per ton on the coinage of British halfpence, *App. p.* 222——Inducements offered to counterfeiters of copper coin, and suggestions for preventing the circulation of counterfeit money, *App. p.* 223——Mode in which the King's warrant directs it to be conducted; manner in which 42 *l.* per ton is distributed amongst the officers of the Mint, (Messrs Garbett's Report,) *App. p.* 222——Quantity coined into halfpence and farthings from 1 June 1769 to 31 December 1781, *App. p.* 222——Account of the total value thereof, from 1st January 1816 to 31st December 1836, specifying the weight, number of pieces, and value of each denomination of money coined yearly, *App. p.* 227.——*See* also *Alloy.* *Irish halfpence.*

Copper Coins. Standard value of different denominations of copper coins in the United States of America, as prescribed by Act of Congress, *App. p.* 210.

Copples. See *Assays.*

Coulange, M. (of Nîmes.) Result of his experimental assays, *App. p.* 116.

Counterfeit Coin. Suggestions for removing all counterfeit copper coin from circulation and supplying its place with a new coinage difficult of imitation, (Messrs Garbett's Report,) *App. p.* 223.——*See* also *Prosecutions.*

Counting Machine. See *Weight.*

Croasdaile, Mr. *T. P.* (Analysis of his Evidence.)—King's clerk and clerk of the papers, 823, 824——Salary, emoluments and tenure of his office, 825-831——His various duties, 832——Witness still retains the opinions expressed in the report of November last, as far as relates to his own office, 833–835——The importation of bullion is rated by the report of the master's assayer; the King's assayer does not make his report until the alloy has been added, 836–845——Mode in which the pot-books are made up, 846–851——They will show the real weight of the ingots when imported, and the amount of alloy added to every pot, 852, 853——A record of the alloy added to the pots of ingots as well as scissel is kept by Buckhan, the surveyor of meltings, 854–857——The journals and ledger show the quantity of metal given to the melter, the amount of coin returned, and the charges of the moneyers, 858–863——As secretary to the Board witness takes the minutes, and enters the names of those who attend, 864–869——There is much correspondence of which the Board has no cognizance, and which is therefore not entered, 870–874.

Crown Pieces. Correspondence between Mr. Herries the Master of the Mint, and the Treasury, in 1828, relative to the coinage of 1,000,000 crown pieces, *App. p.* 89——Statement of the proceeds from the coinage of a portion of the silver purchased for that purpose, showing the profit on the portion coined, after paying the interest on the whole purchase, *App. p.* 90——Account of the weight, number and value thereof coined in each year, from 1st January 1816 to 31st December 1836, *App. p.* 225.

See also *Army Extraordinaries.* *Bank of England.*

Cupels. Return of the value thereof supplied to the King's assayer and master's assayer in each year, from 1821 to 1835 inclusive, *App. p.* 93.

Cutters. The name of certain engines which cut or punch out by a mechanical operation as many blanks as each bar of metal will make, *Athinson* 1907.

D.

D'Arcet, Monsieur. Plan suggested by him for removing the nuisance complained of in the Mint refinery, *App. p.* 66——His report of the assays taken by him of certain pieces of gold and silver transmitted to him by Mr. Bingley, *App. p.* 86.
See also *French Mint.*

Dawson, Mr. *George R.* Letter to the Master of the Mint, February 1830, on the subject of the sums charged upon the Army Extraordinaries in 1828, for the coinage of crown pieces, *App. p.* 90——His letter to the Master of the Mint acquainting him that the Commissioners of the Treasury desired the King's and master's assayer to check the accuracy of the trial plates to be manufactured by the Goldsmith's Company, *App. p.* 237.

Day, Thomas. Averages of his clear yearly profits as clerk to the Master, *App. p.* 218.

Demarara Silver Coinage. Weight coined in 1835; number and denomination of pieces; rate of charge and total amount charged, *App. p.* 71.——*See* also *Private Coinage.*

Deputies. List of the deputies by whom the business of the Mint was formerly conducted, (Messrs. Garbett's Report,) *App. p.* 219.

Deputy Comptroller. Stated by Mr. Wellesley Pole to have done all the business of the comptroller while practising as a physician; his salary and duties, *App. p.* 2—— Averages of the clear yearly profits of the office when held by James Morrison, also King's clerk of the copper coinage, *App. p.* 219.

Deputy Master. Performs all the executive duties of the Master as described in the indenture, *Morrison* 14——He gives security; his salary, fees and emoluments, *Morrison* 15–17.
Mr. W. Pole's recommendation that he should not be allowed to hold the melter's contract, and that he should be paid by a fixed salary, *App. p.* 4——Not to be appointed or removed by the Master without the consent of the Treasury, nor to be allowed to contract for the meltings, (Indenture,) *App. p.* 17——Amount of fees received by him in each year from 1816 to 1836 on account of private coinages, *App. p.* 94.
His report to the Master of the Mint in respect to the proposed inquiry into the establishment of the Mint, the mode of keeping the cash accounts, and the necessity of alterations in the Acts of Parliament and Indenture, *App. p.* 28.
See also *Board*, The. *Private Coinage.*

Deputy Master's Assistant Clerk. His duties; enters the correspondence, and in the absence of the deputy-master has the key of the bullion, *Morrison* 172——His salary, *Morrison* 1166–1168——His duties consist in generally assisting the deputy-master, *Morrison* 1184——Amount of fees received by him on account of private coinages in each year from 1816 to 1836, *App. p.* 94.

Deputy Warden. His salary, *App. p.* 2——Average of the clear yearly profits of the office while held by Edward Lucas, *App. p.* 218.

Devancennée, M. (of Lille.) Result of his experimental assays, *App. p.* 116.

D'Hennin, M. (of Paris.) Result of experimental assays made by him in 1829, *App. p.* 116.

Dick, William. Average of his clear annual profits as King's clerk and clerk of the papers, *App. p.* 218.

Dies. The old dies should be defaced more speedily and effectually than they are at present, both to prevent the striking of counterfeit coin, and the making of imperfect money, *Barton* 575–581——A new mode of polishing the dies should be adopted, *Barton* 582——All the workmen in the die department are under the charge of the clerk of the irons some are partly under the directions of the chief engraver, *Brande* 970–976——The process of manufacture described, *Morrison* 176——The surveyor of money presses and coins has possession of them during the time they are in use, and accounts for them to the clerk of the irons, *Busson* 1115–1131——Manner in which the dies delivered to the surveyor of money presses are accounted for, and the checks used to prevent their abstraction for other purposes, *Brande* 1132–1140——It would be a great convenience if the several offices of the die department were together, *Brande* 924–934 ——No dies have been purloined or removed, but great vigilance is necessary to prevent their being mislaid, *Brande* 935–937——The punches and dies are kept in the Board-room, under the charge of the chief engraver and comptroller, *Brande* 947–949—— Breakages are less frequent now in consequence of the improved manufacture of the steel, *Brande* 1141–1145——The steel is made by Huntsman of Sheffield, *Brande* 1146–1149——In Paris and Milan the ancient dies are catalogued, and are accessible to all persons on proper application; this might be done without difficulty in our Mint, *Brande* 950–960.

463

Report, 1837—*continued.*

Dies—continued.

The engravers enjoined to return monthly to the superintendent of machinery as many dies as shall be found faulty and worn; other regulations relating thereto, (Indenture,) *App. p.* 18——A more ready means of defacing dies immediately they are rejected as unfit for service is desirable, (Comptroller's Report,) *App. p.* 34——Recommendation of the clerk of the irons that additional accommodation should be afforded at the Mint for the manufacture and safe custody of the dies, *App. p.* 49——Duties of the foreman of the die department, hours of attendance, &c., *App. p.* 50——Rules and regulations to be observed by persons employed in the die department, *App. p.* 51——The engraver has no control over the workmen who harden and polish the dies engraved by him, and who, from want of skill or carelessness, frequently injure his work, (Mr. Wyon's Report,) *App. p.* 52.

See also *Clerk of the Irons. Engravers.*

Dime and Half-dime. Coins, being the 10th and 20th parts of the dollar of the United States of America; its standard weight and fineness prescribed by Act of Congress, *App. p.* 210.

Director of the Mint of the United States of America. His powers, duties and salary defined by Act of Congress, *App. p.* 209.

Dollars. Very few new dollars contain any gold; there was gold in the old Spanish dollars, *Mathison* 1698–1703——No assays are required by the Bank in purchasing dollars; the market price is given; the Spanish dollar is worth 1*d.* or 2*d.* an ounce more than the Mexican dollar, *Marshall* 2437–2439——The standard weight and fineness of the United States dollar, half dollar, quarter dollar, &c. as defined by Act of Congress, *App. p.* 210.

See also *Purchases.*

Double Assays. See *Assays.*

Double Entry. See *Accounts. Cash Book.*

Double Sovereigns. 467 and the weight of half a 10-shilling piece to be contained in 20 pounds' weight troy, according to the Mint Indenture, *App. p.* 13——Account of the weight, number and value thereof, coined in each year from 1st January 1816 to 31st December 1836, *App. p.* 224.

Drawbench. An instrument invented by the late Mr. Barton, secures great accuracy and uniformity in the coins, but requires a person of great experience and skill in its management, *Atkinson* 1907——The superior accuracy of the English Mint is chiefly to be attributed to this instrument, *Atkinson* 1909——The bars or fillets from the rolling-room are adjusted to the exact thickness of the coin by this instrument, *Ev. p.* 150.

Numerous expensive experiments were made for two years at the sole cost of the moneyers, who feel themselves aggrieved by the reduction of two per cent. on their charges, on account of that machine, *App. p.* 54.

See also *Barton, John,* Esq. *Moneyers,* Provost and Company of.

Drewe, Mr. Governor of the Bank of England, authorized 30,000 guineas to be subjected to Mathison's experiment in the new process of refining, *App. p.* 60.

Drying Room. The pieces from the pickling-room are here shaken and dried in sawdust, &c., *Ev. p.* 150.

Dublin Assay Office. Value of gold and silver trial plates directed to be delivered thereto in 1830, *App. p.* 245.

Ducats. The Dutch government receive a seignorage on the coinage of ducats which are made for the purpose of foreign trade, *App. p.* 214.

Duchy Court. The trial of the pyx by a jury of goldsmiths is held there, *Morrison* 2028.

Dufay, M. (of Paris.) Result of experimental assays made by him in 1829, *App. p.* 116.

Dulong, Monsieur. Member of the commission appointed by the French minister of finance to inquire into the mode of assaying, *App. p.* 115.

Dutch Mint. Memorandum thereupon, delivered to M. Labouchere by M. Poëlmen, assayer and one of the directors of the Mint at Utrecht, *App. p.* 213——Its power of coinage, *App. p.* 214.——*See* also *Assayers.*

E.

Eagle. A gold coin of the United States of America; standard in weight and fineness as prescribed by the Act of Congress, *App. p.* 210——The eagle, half eagle and quarter eagle to be legal tenders, *App. p.* 210.

East India Company. Fees paid to officers in the Mint on account of a copper coinage executed for, in 1826, *App. p.* 94——Value of the silver trial plates directed to be delivered to them in 1830, *App. p.* 245.——*See* also *Silver.*

Report, 1837—*continued.*

Eastland, Edward. Average of his clear annual profits as clerk to the warden, *App. p.* 218.

Edinburgh Assay Office. Value of gold and silver trial plates directed to be delivered thereto in 1830, *App. p.* 245.

Encyclopædia Britannica. Observations on the office of the King's assay-master, extracted from the article on coinage in the Supplement to, by Mr. Mushet, *App. p.* 40.

Enfield, Mr. See *Apprentices.*

Engravers, Chief and Second. Their respective duties; they are paid by salary and are allowed to work for private individuals, *Morrison* 165–170, *Brande* 938–946——Increase in their salaries recommended by Mr. W. Pole, in order to secure the best artists; abolition of the office of third engraver proposed, *App. p.* 6——Enjoined not to work any puncheons, matrices, dies or stamps, in any other place than the Mint, (Indenture,) *App. p.* 18——Amount of fees received by them on account of private coinages, in each year, from 1816 to 1836, *App. p.* 94——Average of the clear yearly profits of the offices of chief, second and third engravers, while held by Lewis Pingo, Ralph Ocks and John Pingo respectively, *App. p.* 218——Report to the Master of the Mint on alterations required in the office of chief engraver; the accommodation for the work-rooms, &c., *App. p.* 51——Inconveniences attending the present offices; necessity for providing sufficient accommodation; reports of Messrs Brande & Wyon, *App. p.* 50–52.

Duties of the engraver in the French Mint, as explained in the communication from M. Thiers to Earl Granville, *App. p.* 106——Salary and duties of the engraver of the Mint of the United States of America, as prescribed by Act of Congress, *App. p.* 209, 210——The engravers of the Dutch Mint at Utrecht survey the formation of the dies by puncheons and finish them as required; their salaries, *App. p.* 214.

See also *Dies. Operative Department.*

Essais. See *Assays.*

Establishment of the Mint. Consists of the government, the check department, the operative department, the law department, clerks, &c., *Morrison* 7.

See also *Board,* The. *Check Department. Clerks. Government of the Mint. Operative Department. Solicitor to the Mint.*

Exchange Houses. See *Bullion.*

Exchanges. Injury sustained by the remittance of bullion or sovereigns to refine abroad; discontinued by the adoption of the new refining process, *App. p.* 65.

See also *Bullion.*

Exchequer, Barons of The. A return is made on oath before one of the Barons of the Exchequer of all gold and silver coined, *Barton* 589–596.

See also *Comptrolment Roll.*

Exchequer, Comptroller of. Has the custody of that part of the trial plate which is used at the pyx by the jury of goldsmiths, *Morrison* 2033–2055——Value of the new gold and silver trial plates directed to be delivered in 1830, *App. p.* 245.——*See* also *Pyx.*

Exchequer Credit. Has been granted by the Treasury for the purchase of copper by the Mint, *Ev. p.* 148.

Exeter Assay-office. Value of gold and silver trial plates directed to be delivered thereto in 1830, *App. p.* 245.

Exportation. Relative convenience and utility in the trade of coin and bullion for exportation; the objection to coin is that it must be remelted; there is much trouble in counting, and there may be some bad pieces, *Sharp* 2123–2136——Ingots are never objected to on account of any difference of quality in different parts of the same ingot, *Sharp* 2165.

See also *Coinage.*

Extra Clerks. See *Clerks.*

F.

Fallot, M. (of Montbelliard.) Result of experimental assays made by him, *App. p.* 116.

Faraday, Mr. Suggested a method of removing the nuisance in the Mint refinery, which, however, being more expensive than that of M. D'Arcet, was not adopted, *App. p.* 66.

Farthings. Account of the weight, number and value thereof coined in each year from 1st January 1816 to 31st December 1836, *App. p.* 227.——*See* also *Copper Coinage.*

Fees. Usage from time immemorial has sanctioned the fees to the bullion-porter and assayer of the Mint; they are alluded to in the Order of Council in 1815, *Morrison* 2245–2249——Abolition of certain fees recommended by Mr. W. Pole, on account of extra work done for the public service under the authority of the Commissary-general and the Treasury

Fees—continued.

Treasury for Ceylon, *App. p.* 3——Estimated saving by abolishing these fees, *App. p.* 9——Sums paid to the receiver of Master's fees in each year from 1816 to 1837, as regulated by Act 39 Geo. 3, *App. p.* 70.

See also *Assays. Private Assays. Private Coinage.*

Field, Mr. *John.* (Analysis of his Evidence.)—Weigher and teller, and stamper of weights, 977, 978——Duties of his office, 978*——Salary, fees and emoluments, 979–984——Witness introduced a beam on a new principle in 1818 which saves one-third of the time, and has gained in six years 1,000*l.* for the public, 985, 986——The Mint weighs more accurately than the Bank; and on the importation of bullion, the latter receive credit for the weight at which they had purchased; any surplus is the profit of the public, 987–992——This applies to silver only; the Board officers take down the surplus, 993–996——Before the introduction of this beam, no notice was taken of the surplusage, 1005–1007——Witness also invented a machine for counting the money in the pyx-room, which saves time and secures accuracy, 1008——For neither of these inventions has he received any remuneration, 1009——His attendance and extra hours during re-coinage, 1010–1012——Witness repairs the assay balances and weights himself, 1013–1016——In 1822 the system of weighing copper was introduced, and the duty imposed upon him, 1017, 1018——He is allowed the assistance of a labourer in weighing, 1019–1021.

Field, Mr. The weigher and teller is also employed in repairing the machinery, and is an excellent workman, *Barton* 536–542——Evidence respecting his fees and emoluments, *Barton* 810–822.

Finance Committee. Extract from the Report of the Finance Committee of 1798, respecting the advantages derived by the public from the contract with the Company of Moneyers, *Atkinson* 1959.

Fineness. See *Standard.*

Fireman and Clerk to the King's Assayer. Annual average of the clear yearly profits of the office while held by Samuel Peg, *App. p.* 219.

Fitzpatrick, Mr. See *Robberies.*

Five-pound Pieces. See *Gold Five-pound Pieces.*

Fletcher, Mr. Proposed his son as an apprentice to the Company of Moneyers; Mr. Wellesley Pole consented, on condition that a young man named Jerome should also be appointed, which Mr. Fletcher refused, *Atkinson* 1935–1937.

Fletcher, Reuben. Average of his clear yearly profits as smith to the engraver, and as smith and die forger to the Mint, *App. p.* 219.

Fourpences. Account of the weight, number and value of silver fourpences coined in each year from 1st January 1816 to 31st December 1836, *App. p.* 226.

Fractions in Fineness. See *Assays. Bank of England.*

France. See *Bank of England.*

France, Mints of. There are now eight Mints in France; there were formerly 13, but they have been concentrated, *Atkinson* 1894.

French Mint:

1. *Expenses and Management.*
2. *Papers laid before the Committee.*

1. *Expenses and Management:*

The Mint of France coin gold at an expense of one-quarter per cent.; the melting and coining are managed under the same contract, *Barton* 628–636, *Mathison* 1238–1241——They do not use steam power; working by hand is superior in execution, but less expeditious, *Brande* 1150–1163——Monsieur D'Arcet is the chief assayer, and he has two assayers under him paid by the government, *Mathison* 1344–1353——The French system of management is entirely different from our own; everything is done by contract, *Mathison* 1242–1245——The metal is the property of the contractor, and not subject to the same checks as in England, *Mathison* 1246–1249——The only check is the pyx, *Mathison* 1252–1256——As the whole process is under the orders of the contractor, there is no delay, *Mathison* 1262–1265——The director has the whole contract, can purchase bullion as he thinks fit, may add alloy in the melting, and has also the advantage of the return of the assay, *Atkinson* 1891, 1892——The machinery and establishment of the French Mint is comparatively small, and the wages of the workmen much lower, *Atkinson* 1893, 1894——The expense of coinage of gold and silver in the French Mint compared with the expense of the English Mint, *Atkinson* 1888–1890——Their machinery is so defective that in manufacturing 5-franc pieces they roll them on the heavy side of the standard, and then scrape them with an instrument, *Atkinson* 1902–1905——The coin is pyxed in the

Report, 1837—*continued.*

French Mint—1. *Expenses and Management*—continued.

the same manner as in England, *Atkinson* 1975, 1976——The melting is roughly executed, and the silver is invariably below the standard in fineness, *Atkinson* 1977–1979——They use large wrought-iron pots for melting, *Mathison* 1342——The contractors can keep their men always at work by purchasing bullion; in England the coinage is uncertain, and the workmen must be retained, *Mathison* 1342, 1343.

2. *Papers laid before the Committee:*

Comparative statement of the salaries and allowances, contingent expenses and rates of coinage in the establishments of the French and English Mints, *App. p.* 87——Papers relating thereto, viz. Réponses aux questions sur les monnaies Françaises faites par M. l'ambassadeur d'Angleterre, *App. p.* 96——Lois et décrets sur la fabrication et vérification des monnaies, *App. p.* 98——Commission des monnaies et médailles, 1803, *App. p.* 100——Ordonnance du Roi sur l'organisation de la commission des monnaies, 26 Décembre 1827, *App. p.* 100——Instruction générale de la commission des monnaies pour l'exécution de l'Ordonnance Royale du 26 Décembre 1827, *App. p.* 104——Extraits du Budget de 1836, (Dépenses et Services de la Commission des Monnaies,) *App. p.* 112.

See also *Machinery. Remedy.*

Franklyn, Richard. Provost of the Company of Moneyers, his report on behalf of the company to the Master of the Mint, *App. p.* 53.

Freville, M. le Baron de. A member of the commission appointed by the French minister of finance for inquiring into the mode of assaying, *App. p.* 115.

Furnaces. See *Assays. Melting.*

G.

Garbett, Messrs. Extract from the report of Messrs. Garbett, Birmingham manufacturers, who inspected the Mint by the authority of Lord Shelburne, relative to the Company of Moneyers, *Atkinson* 1958, 1959——Their report to the Lords Commissioners of the Treasury in 1782 on the state of the Royal Mint, *App. p.* 215.

See also *Moneyers,* Provost and Company of.

Gay, Lussac, Monsieur. Son rapport sur le mode d'essai des matières d'or et d'argent employé en France, *App. p.* 114——Instruction sur l'essai des matières d'argent par la voie humide, *App. p.* 134——Observations sur l'essai des matières d'argent par la voie humide, *App. p.* 172.——*See* also *Assays.*

Genneau, M. (of Paris.) Result of experimental assays made by him in 1829, *App. p.* 116.

George, I. & II. Degrees which gold coin was below standard during their reigns, (Messrs. Garbett's Report,) *App. p.* 219.

Georgia. A branch Mint of the United States has been established there for the coinage of gold only, but is not yet in operation, (Mr. Patterson's Letter,) *App. p.* 208.

Gingembre, Monsieur. See *Remedy.*

Glasgow Assay Office. Value of gold and silver trial plates directed to be delivered thereto in 1830, *App. p.* 245.

Glasses. Return of the value of glasses supplied to the King's assayer and Master's assayer in each of the 15 years, from 1821 to 1835 inclusive, *App. p.* 93.

Gold. Price per ounce of gold for the last 10 years; difference in the price when bought by the Bank and by individuals, *Sharp* 2137–2146——The relative market prices of bullion and coin fluctuate according to the demand for each, *Sharp* 2147, 2148——By reason of the delay which is occasioned by coinage, there may be reduction in the actual value of gold if the demand be small; this could not arise if small quantities could be immediately coined at the Mint, *Sharp* 2160–2164——There is no difference in the value of bullion sold on Mr. Johnson's assay as compared with Mr. Bingley's, *Haggard* 2374, 2375——Facilities for coining would not raise the price of gold; the profit of coinage is very little more than that arising from sale at the market price, *Haggard,* 2477–2479——The Bank price of gold has remained the same since 1828, *Haggard* 2485, 2486——The fixed price at which the Bank have purchased gold shows that they do not buy it when others will give more; and when the market price rises they cannot sell it higher than the standard, *Haggard* 2505–2508——The proportion between the value of gold and silver should be as 15 to 1, *Haggard* 2496–2498.

Gold comes to England chiefly from the Continent; the gold produced in the Brazils and in Africa is scarcely sufficient to supply the gilding of the country, *Haggard* 2522–2524——A very large quantity is produced in the Ural Mountains by Russia, where it is collected by slaves, at no expense, *Haggard* 2525–2529——A new process has been invented for obtaining it by fire instead of by washing; applicability of the discovery to other mines, *Haggard* 2530–2533——African gold is more easily melted and refined than any other, *Johnson* 2311, 2312.

Value

Gold—continued.

Value of every pound weight, troy, of gold monies according to the Mint Indenture, *App. p.* 13——Weight coined in 1835, number and denomination of pieces; rate of charge and total amount charged, *App. p.* 71.

Tarif du prix auquel doivent être payées, au charge des Hôtels des Monnaies, les matières et espèces d'or, conformément a l'ordonnance du 25 Février 1835, *App. p.* 192.

See also *Assays. Bank of England. Brown* and *Brind. Bullion. Coinage. Exportation. Imperial Brazilian Mining Company. Journeyweight. Private Assays. Refining. Rothschild,* Messrs.

Gold Coinage. Total value of the gold coinage from 1st January 1816 to 31st December 1836, specifying the weight, number of pieces and value of each denomination of money coined yearly, *App. p.* 224.

Gold Coinage Fund. Letter of Mr. Morrison to Mr. Dawson, inclosing accounts respecting, with explanations, *App. p.* 91——Account of the manner in which the monies deposited in the gold coinage fund have been employed, showing the payments to private importers of gold into the Mint from February 1829 to March 1830, *App. p.* 91——Regulations for private importers bringing gold to the Mint, in reference to the gold coinage fund, *App. p.* 92.

Gold Five Pound Pieces. 186, and nine 10 *s.* pieces, to be contained in 20 pounds' weight, troy, according to the Mint indenture, *App. p.* 13.

Goldsmid. See *Mocatta and Goldsmid.*

Goldsmiths' Company. Select a jury of their own corporation for the trial of the pyx, *Morrison,* 2039–2046——Value of the gold and silver trial plates directed to be delivered to them in 1830, *App. p.* 245——*See* also *Indenture. Pyx. Trial Plates.*

Government of the Mint. Composed of the Master, deputy-master, and a Board of the principal officers, *Morrison,* 8.——*See* also *Board,* The.

Granville, Earl. Letter to his Lordship from M. Thiers, inclosing replies to questions transmitted by Lord Palmerston on the French coinage, *App. p.* 96——*See* also *Assays.*

Gratuities. Circumstances which suspended the gratuities to officers of the Mint for length of service, recommended by Lord Maryborough, *Morrison* 1169–1172.

Gregory, William. Average of his clear yearly profits as deputy and clerk to the Master and purveyor, *App. p.* 218.

Guineas. See *Assays. Bank of England.*

H.

Haggard, Mr. See *Marshall,* Mr. *M.* and Mr. *Haggard.* (Analysis of their Evidence.)

Half-cent. See *Cent.*

Half-crowns. Account of the weight, number and value thereof coined in each year from 1st January 1816 to 31st December 1836, *App. p.* 225.

Half-dime. See *Dime.*

Half-dollar. See *Dollars.*

Half-eagle. See *Eagle.*

Half-guineas. See *Bank of England.*

Halfpence. Account of the weight, number and value thereof, coined in each year, from 1st January 1816 to 31st December 1836, *App. p.* 227.

See also *Copper Coinage. Irish Halfpence.*

Half-sovereigns. 1,869 to be contained in twenty pounds' weight troy, according to the Mint Indenture, *App. p.* 13——Account of the weight, number and value thereof, coined in each year from 1st January 1816 to 31st December 1836, *App. p.* 224.

See also *Coinage. Sovereigns.*

Harris, Mr. A King's assayer; received a pension from the Treasury for instructing a probationer in all the branches of his art, *App. p.* 3——Extract from his works on coinage on the importance of the office of King's assay-master, *App. p.* 40.

Hawes, Francis. Average of his clear yearly profits as foreman of the master's assayer, *App. p.* 219.

Herries, Mr. Correspondence with Mr. Morrison on the subject of the refinery, and the verbal engagements entered into by him with Mr. Mathison, in reference to the new process of refining, *App. p.* 62, 63——His letter, January 1829, to the Commissioners of

Report, 1837—*continued.*

Herries, Mr.—*continued.*
of the Treasury, inclosing papers (A.) and (B.) on gold and silver trial plates, *App. p.* 235——Letter, January 1830, enclosing further papers on the same subject, *App. p.* 239.——*See* also *Crown Pieces. Refining. Trial Plates.*

Hill, Mr. See *Stronghold Account. Tale Books.*

Hunot, M. (of Paris.) Result of experimental assays made by him in 1829, *App. p.* 116.

Huntsman, Messrs. See *Dies.*

I.

Imperial Brazilian Mining Company. Their gold, when refined, is taken to the Mint to have their stamp upon it before it goes to the Bullion-office, *Johnson* 2285——Some of the company's gold was brittle, and the Mint stamp is for the security of the refiner, *Johnson* 2286–2290——The Mint stamp is a private mark of witness's, put upon ingots as an accommodation to Mr. Johnson, in order that his gold may be received at the Bank, *Mathison* 2324–2327.

Importation. The Committee proceeded to witness an importation of gold bullion; the several forms enumerated, *Ev. p.* 148, 149——The Master bound to receive all bullion brought by any person to the Mint at its full value; the King's assayer to try the same, (Indenture,) *App. p.* 15——No importer is allowed to bring into the Mint a less quantity of gold than 10,000 *l.* value, *App. p.* 92.
Regulations respecting the importation of bullion into the United States Mint, for coinage, as prescribed by Act of Congress, *App. p.* 210.
See also *Assays. Bank of England. Coinage. Gold Coinage Fund. King's Assay Master.*

Imprest Book. Mode of entry in the imprest-book is now under consideration, *Ev. p.* 148.

Incidental Expenses. Estimates of all materials requisite for the operations in the several offices of the Mint should be prepared, and the amount annually voted by Parliament, (Deputy Master's Report,) *App. p.* 29——Remarks on the sums charged as incidental expenses of the Mint, from 1770 to 1781, (Messrs. Garbett's Report,) *App. p.* 217.
See also *Contingent Expenses.*

Indenture. The Mint Indenture should be revised in language, but a similar instrument is preferable to the regulations of Government, *Barton* 525–530——The duties assigned to each officer are extracted from the indenture and given to him, *Buckham* 1037——Extract from, respecting the duties of the jury of goldsmiths, read to them on the trial of the Pyx, by the Lord Chancellor, *Morrison* 2028.
Copy of the Mint Indenture, 57 Geo. 3, *App. p.* 11——It is desirable that it should undergo an entire revision, (Deputy Master's Report,) *App. p.* 29——Alterations suggested therein by the comptroller and King's clerk *App. p.* 34.
See also *Machinery. Moneyers*, Provost and Company of.

Ingots. The imperfection of ingots, whether from accident or design; nature of imperfections which have been discovered, (King's Assayer's Report,) *App. p.* 43.
See also *Mercury. Palladium. Platina. Sulphur.*

Ionian Coinage. Weight coined in 1835; number and denomination of pieces; rate of charge and total amount charged, *App. p.* 71.

Irish Halfpence. Directions contained in the King's Warrant for the coinage thereof; distribution of the sum of 46 *l.* 13 *s.* 4 *d.* allowed per ton, amongst the several officers of the Mint, (Messrs. Garbett's Report,) *App. p.* 222.

Iron Pots. See *French Mint. Melting.*

Irons, Clerk of the. See *Clerk of the Irons.*

J.

James II. Degrees which the gold coin was worse than standard during his reign, (Messrs. Garbett's Report,) *App. p.* 219.

Jerome. See *Fletcher*, Mr.

Johnson, Mr. *Percival Nott.* (Analysis of his Evidence.)—Has been an assayer of metals for 28 years, 2252–2254——Twenty-five years ago he assayed bullion for the Bank, who bought it on his assay, 2256–2259——The Bank did not then purchase bullion assayed by others in the trade, 2260, 2261——Witness assays bullion for the merchants, who sell it to the Bank, when it is again assayed by the King's assayer, 2262–2264——His charges for gold and silver assays, and the number that can be taken in a day, 2265–2267——

Johnson. Mr. *Percival Nott.* (Analysis of his Evidence)—*continued.*

2267——The Bank did not complain of any inaccuracies in witness's assays, 2268–2270——Brown & Brind are the only melters for the Bank; merchants and importers of bullion are desirous of having the option of employing other establishments, 2271–2274——A petition to that effect was presented to the Bank, 2275–2279.

Witness refines for the Imperial Brazilian Mining Company, 2280–2284——The gold is taken to the Mint to have their stamp upon it before it goes to the Bullion-office, 2285——Some of the company's gold was brittle, and the Mint stamp is for the security of witness, 2286–2290——Pure gold is fit for coinage, and is not brittle when mixed with alloy, 2291——Witness's charges for refining; sums paid for the Mint stamp, 2292–2296——No bars refined by him have been returned as brittle, 2297–2304——There is no establishment but the Mint at which the silver is separated from gold by sulphuric acid, 2305–2307——No charge is made for melting, 2308–2310——African gold is more easily melted and refined than any other, 2311, 2312——Establishment required for taking 200 assays in a day; number of assays made in a furnace, 2313-2319——Double assays are taken to secure accuracy, when the bars are of importance, 2320——Complaints have been made of the detention of assays by the King's assayer, 2321–2323.

[Mr. *Mathison.*—The Mint stamp to which Mr. Johnson alludes, is a private mark of witness's put upon ingots, as an accommodation to Mr. Johnson, in order that his gold may be received at the Bank, 2324–2327.]

See also *Assays. Bank of England. Gold.*

Jones, Asher and *John.* Average of their clear yearly profits as deputies to the weigher and melter, and to the surveyor of meltings, *App. p.* 219.

Journal or *Waste Book.* Contents thereof, by whom kept, &c., *Ev. p.* 146.

See also *Cash Journal* and *Ledger.*

Journals and *Ledger.* Show the quantity of metal given to the melter, the amount of coin returned, and the charges of the moneyers, *Croasdaile* 858–863.

Journey Weight. A journey weight of gold is 15 lbs., of silver, 60 lbs., *Atkinson* 1907.

K.

Keith. See *Robberies.*

Kempe, John. Average of his clear yearly profits as porter at the Mint, *App. p.* 219.

Kent Road. A workman employed at the French refinery there engaged by Mr. Mathison to assist in his experiments on the new process of refining by sulphuric acid, *App. p.* 59.

See also *Refining.*

Keys. Three keys to be kept of the stronghold; one by the Master, another by the Comptroller, and a third by the King's Clerk, (Indenture,) *App. p.* 15, 16.

King's Assay-Master:

1. *Antiquity, Duties, Salary and Emoluments of the Office.*
2. *Papers laid before the Committee.*

1. *Antiquity, Duties, Salary and Emoluments of the Office:*

Tries the weight and purity of the bars which are melted before they are put into the process of coinage, *Morrison* 32–40——Other duties; he is the check upon the weight and fineness of all monies, *Morrison* 41, *Bingley* 317——The account of his duties as laid before the Committee is imperfect; he attends pyxes, &c., *Bingley* 653–655——Ingots are not received at the Mint unless previously assayed by him; he receives a fee from the owners, *Morrison* 199–212——No fee is paid him on the importation of bullion into the Mint, if it has already been privately assayed by him, *Bingley* 2582–2587——The operations in the office of the King's assay-master can be conducted as rapidly as in any other office in the Mint, *Bingley* 2560–2563——Coin remains locked up in the Mint-office stronghold until reported by the King's assayer to be proper for delivery, *Ev. p.* 150.

Office of great antiquity; described as having existed in the time of Henry III, *Bingley* 316——The salary is now reduced from 900*l.* to 750*l.* a year, *Bingley* 318–321——He has always had the privilege of making private assays with public materials; and the precipitated silver is his perquisite, *Bingley* 322–331——He also has the assistance of the public servants, *Bingley* 409–414——It would be impossible for him to perform his check duties if he were to examine officially the ingots at the time of the coinage; at present they have frequently been assayed some years, *Bingley* 392–399.

His proposed regulations respecting alloy and stopped pots, *Bingley* 2586–2592——Witness entirely agrees with Mr. Bingley, whose plan would not interfere with any legal right which the importer of bullion can claim, *Barton* 2593–2601.

Report, 1837—*continued.*

King's Assay Master—continued.

2. *Papers laid before the Committee:*

His report to the Master of the Mint on the joint assay of the King's and master's assay-masters relative to the standarding of bullion for coinage, &c. *App. p.* 40—— Second report, being in reply to the recommendation of the comptroller and King's clerk respecting water-silver and alloy, *App. p.* 46——Opinion as to the propriety of commuting his fees received from the importers of bullion into the Mint, for an increased salary, (King's Assayer's Report,) *App. p.* 44——Is the most important of all the check officers; an increase in his salary recommended on condition that he should instruct a probationer in all the branches of his art, *App. p.* 3——Mr. Wellesley Pole's opinion that the fees received by him for assaying should not be taken into account in fixing his salary as a public officer, *App. p.* 4——Shall be bound to instruct in the art of assaying; the probationer assayer to be nominated by him, and approved by the Master, (Indenture,) *App. p.* 17——Return of the value of materials and labour supplied to the King's assayer in each of the 15 years, from 1821 to 1835 inclusive, *App. p.* 93—— Amount of fees received by him on account of private coinages in each year, from 1816 to 1836, *App. p.* 94——Average of the clear yearly profits of the office when held by Mr. Lucas, (Messrs Garbett's Report,) *App. p.* 218——Value of the gold and silver trial plates directed to be delivered to him in 1830, *App. p.* 245.

Salary, emoluments and duties of the King's assayer at the Dutch Mint in Utrecht, *App. p.* 213.

See also *Alloy. Assays. Bank of England. Bingley,* Mr. *H. Board,* The. *Check Department. Coinage. Encyclopædia Britannica. Harris.* Mr. *Melting. Private Assays. Scissel. Stopped Pots. Water Silver.*

King's Clerk and Clerk of the Papers. Salary, emoluments and tenure of the office, *Croasdaile* 825–831——His duties, *Croasdaile* 831–835——His income in 1815; an increase recommended by Mr. Wellesley Pole; he should be compelled to reside in the Mint, *App. p.* 3——Required to reside within the Mint, (Indenture,) *App. p.* 17.

Amount of fees received by him on account of private coinages in each year, from 1816 to 1836, *App. p.* 94——Average of the clear yearly profits of the office while held by William Dick, (Messrs. Garbett's Report,) *App. p.* 218——And of his deputy Thomas Norris, *App. p.* 219.——*See* also *Board,* The. *Check Department.*

King's Remembrancer. Ordered by the Treasury to swear the jury of goldsmiths for the trial of the pyx, *Morrison* 2028.

Lead. Return of the value thereof supplied to the King's assayer and master's assayer, in each of the 15 years from 1821 to 1835 inclusive, *App. p.* 93.

Lecour, M. (of Paris.) Result of experimental assays made by him in 1829, *App. p.* 116.

Ledgers. All bullion brought to the Mint to be entered therein with all particulars respecting the same, (Indenture,) *App. p.* 15——Are made up monthly; their contents are kept by the master's clerk, comptroller and King's clerk, *p.* 147.

See also *Cash Journal and Ledger. Journals and Ledger.*

Lefevre, M. of Rouen. Result of experimental assays made by him, *App. p.* 116.

Liabilities. See *Assays and Liabilities.*

Lord Chancellor. Summons a jury of goldsmiths for the trial of the pyx; gives his charge to them and receives their report, *Morrison* 2028.

Lucas, Edward. Average of his clear yearly profits as deputy-warden, *App. p.* 218.

Lucas, Mr. *J.* A King's assayer who declined taking the private assays, which were then undertaken by the master's assayer, *Bingley* 381–384——Average of his clear yearly profits as King's assayer, (Messrs. Garbett's Report,) *App. p.* 218.

M.

Machinery:

1. *Magnitude and Expense thereof.*
2. *Liability to Repair.*
3. *Papers laid before the Committee.*

1. *Magnitude and Expense thereof:*

There are three steam-engines in the moneyers' department, one of 30-horse power, another of 16, and a third of 10-horse power, *Atkinson* 1894——The extensive machinery of our Mint renders the coinage very rapid when necessary, but is very expensive when small quantities only are required, *Atkinson* 1915, 1916——Expense of setting the machinery at work, and of each process of the manufacture, *Atkinson* 1917–1921——The old machinery would be more economical for the small coinages, but it would not be worth while to erect it on that account, *Atkinson* 1922–1925——It would

Machinery—1. *Magnitude and Expense thereof*—continued.

would not repay the expense if smaller machinery were erected for the small coinages, but no coinage should be ordered until a large quantity is required, *Atkinson* 1980–1986.

2. *Liability to Repair:*

The repairs of the machinery are done at the expense of the moneyers; new machinery is provided by the public, *Barton* 514——The liability of each party is not prescribed with sufficient clearness in the indenture, *Brande* 889–891——A dispute has arisen as to the party who shall bear the expense of a new slide valve to the steam-engine; the opinion of the solicitor of the Mint, *Barton* 514–522, *Brande* 919–921, 968——Counsel's opinion will be taken, *Brande* 969——The rollers have sometimes been broken and repaired by the moneyers, *Barton* 523, 524——The difficulty respecting the construction of the agreement as to the liability of the moneyers to renew the slide valve; Mr. Alexander, K.C., and the solicitor of the Mint, have adopted different opinions, *Atkinson* 1962, 1963——Witness considers the agreement to be sufficiently clear, the words being, "reasonable use and wear thereof excepted," *Atkinson* 1964–1970——It is the duty of the superintendent of machinery to see that the engines are in working order, *Atkinson* 1971——Witness conceives that the Government is liable, because the old slide was repaired by the moneyers, and that which is the subject of dispute is a new piece of machinery, *Brande* 922, 923——Expenses of repairing machinery in the moneyer's department since 1814; Mr. Brande, superintendent of machinery, reports when such repairs are necessary, *Barton* 531–533——The repairs are made partly by machinists on the establishment, partly by others; when the Mint is at work they are under the moneyers, at other times under the superintendent of machinery, *Barton* 534, 535.

3. *Papers laid before the Committee:*

Schedule of the machinery and apparatus which the moneyers are bound by their agreement to keep in repair, *App. p.* 22——Difficulty of determining when the Mint is not at work with relation to the wages of artificers; and obscurity of the agreement of the moneyers in respect to repairs, (Comptroller's Report,) *App. p.* 33——Amount of wages paid by the Government and by the moneyers, in 1835, to artificers employed in keeping the machinery in order; also the allowance for coals, tallow and oil for working the machinery, *App. p.* 72——Mode of ascertaining the proportion to be paid by the Government and by the moneyers, *App. p.* 73, 74.

Arrangement between the Dutch government and the Master of the Mint at Utrecht relative to the machinery, *App. p.* 214.

See also *Artificers. Coinage. French Mint. Melting. Moneyers. Superintendent of Machinery. Wages.*

Machinists. See *Machinery.*

Malta Copper Coinage. Weight coined at the Mint in 1835; number and denomination of pieces; rate of charge, and total amount charged, *App. p.* 71.

Marking Room. The process of raising up the protecting edge of the coin, and of equalizing the circumference, as performed in the marking-room, *Atkinson* 1907——The pieces are rounded on the edge, *Ev. p.* 150.

Marshall, Mr. *Matthew,* and Mr. *Haggard.* (Analysis of their Evidence.)

[Mr. *Marshall.*] Is chief cashier of the Bank of England, 2341.——[Mr. *Haggard.*] Has been 18 years chief clerk of the Bullion-office, 2342, 2343——Messrs. Mocatta & Goldsmid, the Bank brokers, send contracts to different parties, who bring their bars to the Bullion-office, where they are weighed, 2344——There is a market price for silver and a fixed price for gold, 2345——A piece of each bar is sent to Mr. Bingley, at the Mint, to be assayed, 2346, 2347——There are two departments in the Bullion-office, one of which is connected with the Bank only, the other is a deposit office for the accommodation of merchants, 2348–2350——The latter is for the reception of bullion until merchants are able to dispose of it, 2351–2353——The bullion in this department is also sent to Mr. Bingley, unless a particular request be made by the owner that Mr. Johnson should assay it, 2354–2359——More confidence is placed in Mr. Bingley's assay by purchasers, particularly abroad, 2360–2364——Mr. Bingley's charges, 2365——The weight of gold that is sent for assay, 2366——Gold would not be sold at the Bullion-office if Mr. Johnson had assayed it without informing the purchaser of the fact, 2367–2373——There is no difference in the value of bullion sold on Mr. Johnson's assay as compared with Mr. Bingley's, 2374, 2375——An assay is generally returned from the Mint in two days, unless there is a very great influx of business; it is sometimes returned on the same day if required, 2376–2380.

In the Bullion-office the bars of gold are kept in sets of 100 bars, and when required for coinage are delivered to a gentleman from the office of the chief cashier, 2381–2384——The Bullion-office is intended only for the custody of bullion and for ascertaining its value, 2385——The guineas collected for recoinage did not all pass through the Bullion-office, 2386–2389.

[Mr. *Marshall.*] The guineas were accumulated in the Treasury, and were afterwards placed in the vaults under the custody of the directors, 2390, 2391——If melted into

Report, 1837—*continued.*

Marshall, Mr. *Matthew* and Mr. *Haggard.* (Analysis of their Evidence)—*continued.*

bars they were sent to the Bullion-office; if not, they were placed in bags, and the weight checked at the Bullion-office before they were forwarded to the Mint, 2392–2394——The books of the Bullion-office would not show the number of guineas that have been recoined, 2395, 2396.

Gold purchased by the Bank is assayed by the authority of Mr. Haggard, 2396——And is received at the Bullion-office by authority of a duplicate broker's ticket, 2398——Gold could not be received unless assayed by Mr. Bingley, 2399–2402.

[Mr. *Haggard.*] This has been the general rule for more than a century, 2403–2406——Gold was rejected some years since which had not been assayed by Mr. Bingley; the fact was reported to the governor, and no new instructions were given, 2407–2411. [Mr. *Marshall.*] The bars are delivered at the Mint to the master's assay-master, and undergo a second assay; Mr. Bingley's assay is unconnected with the Mint, 2412–2415.

Account of bar-gold sent to the Mint for coinage, 1817–1836; profit of the Bank on the allowance of the fractions in fineness, which were too small to be reported on each bar for the benefit of the seller, 2416–2419——The balance of profit over the loss was 15,000*l.*, 2420–2426——No inconvenience has arisen from delay in obtaining coin for the bullion sent from the Bank, 2427.

[Mr. *Haggard.*] Mr. Sharp and Mr. Goldsmid, bullion brokers, are opposed to each other, 2428–2434——The only brokers employed by the Bank are Mocatta and Goldsmid, 2435, 2436——In purchasing dollars no assay is required, the market price is given, 2437–2439——All bullion which is melted abroad is remelted by Brown and Brind before it passes through the Bank; pieces of iron have been found in the bars, 2440–2450——About one-half the bullion that enters the Bank is taken out again as packages, 2451–2454——The bars containing iron had a South American mark, and had not been assayed in England, 2455, 2456——The double assays of Mr. Johnson and Mr. Bingley are conducted in the same manner, 2457–2462.——[Mr. *Marshall.*] The only reason for preferring Mr. Bingley's assay is because he is a public officer, 2463.——[Mr. *Haggard.*] Bullion assayed by Mr. Bingley formerly had a higher value, but since Mr. Johnson has adopted the same mode of assaying, it has not been the case, 2464–2467.——[Mr. *Marshall.*] Although Mr. Bingley assays for the Bank as an individual, his assay is known by all purchasers as that of the King's assay-master, 2468, 2469——The preference given him by the Bank may also further establish his authority, 2470——The seller of bullion pays for the assay; in the coinage of guineas the Bank paid for the assay, 2471, 2472.

[Mr. *Haggard.*] The Bank has melted much silver and paid for the assays, 2473——If the public could coin their bullion immediately, they would only do so when profitable, and the supply of coin would be irregular, 2474–2476——Facilities for coining would not raise the price of gold; the profit of coining is little more than selling at the market price, 2477–2479——The price of silver would be more steady if made a legal tender, and capable of being coined without seignorage, 2480–2484——The Bank price of gold has remained the same since 1828, 2485, 2486——Variations in the value of silver coin since the reign of Elizabeth, 2487–2492——Variations in the price of silver, 2493–2495——Witness's calculation that the proportion between the value of gold and silver should be as 15 to 1, 2496–2498——The price of bullion in different countries has been equalized since the establishment of houses for exchange, 2499, 2500——The whole quantity of gold accumulated by the Bank in 98 months was drawn out in 18 months by one or two persons, 2500–2504——The fixed price at which the Bank buy gold at all times, shows that they do not buy it when the market price is high; they cannot sell it higher than the standard, 2505–2508——No charge is made for the custody of bullion; in France one per cent. is charged, 2509–2512——Immense demand for silver in France, 2513–2516——The per centage of profit which would change the current of silver bullion, 2517–2519——Places from which gold and silver are now brought; importations from Russia, 2520–2529——In Russia a new process for procuring the gold by fire has been invented, 2530–2533——The public ought not to have the option of coining, 2534–2537——Which makes the Bank give a higher price for gold than they would otherwise give, 2538–2557.

Maryborough, Lord. See *Apprentices. Gratuities. Master of the Mint. Pole,* Mr. *Wellesley. Private Coinage.*

Masson, Maître des Requêtes. Member of the commission appointed by the French minister of finance for inquiring into the mode of assaying, *App. p.* 115.

Master of the Mint. His duties enumerated, *Morrison* 11——Salary reduced to 2,000*l.* a year when Lord Auckland was Master, *Morrison* 12, 13——He occasionally attends the Board, *Morrison* 47–76——He never interferes except in cases of great importance; instance in which Lord Maryborough interfered, *Morrison* 70–73.

Formerly held the contract for the meltings, *App. p.* 4——To enter into a bond for 20,000*l.* on entering office; such bond to be cancelled on obtaining a certificate from the

Master of the Mint—continued.

the officers of the Mint and the importers of bullion, (Indenture,) *App. p.* 18——Average of the clear yearly profits of the office during the Mastership of Lord Cadogan, *App. p.* 218——Value of gold and silver trial plates directed to be delivered to him in 1830, *App. p.* 245.

See also *Apprentices. Board.*

Master's Assay Master. Reports to the principal officers of the Mint what bullion may be put in operation for melting, and the value for which the owners are to be paid, *Morrison* 127, 128——His duties enumerated, *Beckwith* 735——Salary, fees and emoluments, *Beckwith* 736–747——Should be paid by increased salary, instead of fees for the assays he makes, *Bingley* 2589. 2616–2621.

His salary was raised in Lord Bathurst's Mastership; further increase recommended by Mr. W. Pole; the fees he receives from the importers of bullion should be continued, *App. p.* 5——Return of the value of materials and labour supplied to the master's assayer in each of the 15 years from 1821 to 1835 inclusive, *App. p.* 93——Amount of fees received by him on account of private coinages in each year from 1816 to 1836, *App. p.* 94——Average of the clear annual profits of the office when held by Slanesby Alchorne, *App. p.* 219——Average of the clear yearly profits of his foreman, Francis Hawes, (Messrs. Garbett's Report,) *App. p.* 219.

See also *Assays. Operative Department.*

Master's Clerk. Average of the clear yearly profits of the office when held by Thomas Day, *App. p.* 219.

Master's Fees. Statement of the manner in which the Master's fees received from 10th October 1815 to 5th April 1837 have been appropriated, *App. p.* 231.

See also *Fees.*

Master's First Clerk. There is neither salary nor duty attached to this office, *Mathison* 1205–1213——Mr. W. Pole's recommendation that he should have the melter's contract and instruct the Master's second clerk as probationer, *App. p.* 5——Enabled to contract for the meltings; directed to employ and instruct the Master's second clerk in the art of melting, (Indenture,) *App. p.* 17.

Master-General's Cash Account. Of all monies received on account of the Mint, and all payments made, is laid before the Commissioners for Auditing Public Accounts, *Ev. p.* 147.

Master's Porter. Attends the scales when gold and silver are weighed, *Pearson* 1500, 1501.

Master's Second Clerk. Amount of fees received by him on account of private coinages in each year from 1816 to 1836, *App. p.* 94.

Mathison, Mr. *G. F.* (Analysis of his Evidence.)—Master's first clerk and melter and refiner, 1204——There is no salary attached to the former office, nor are there any duties to perform, 1205–1213——As melter, he holds a contract, determinable on three months' notice, to execute his duties at rates specified in the indenture, 1214–1216——It has been usual to bring up a probationer to the office, 1217–1219——Witness experienced some difficulty when he first entered, but applied himself earnestly to learn the business, 1220——Offices he held before, 1221, 1222——The terms of the contract were reduced by Lord Maryborough; the present melting prices are one-half the trade price, 1223–1228——Witness entered into a bond for 5,000*l.*, 1229.

The melter and moneyer in the American Mint are paid salaries, and have an allowance for waste, 1231–1237——In the French Mint, the same contractor melts the metal and fabricates the coin, 1238–1241——Whether the union of the two contracts is conducive to economy; the French system of management is different; everything is done by contract, 1243–1245—— In France the metal is the property of the contractor, and not subject to the same checks as in our Mint, 1246–1249——If the two contracts were united in England, the same checks would be necessary for the security of the public, 1250, 1251——The only check in France is the pyx, 1252–1256——The stopped pots are those in which the combination of metals is found to be inaccurate by the King's assayer; their contents are remelted, 1257–1261——In France the whole process is under the orders of the contractor, and therefore there is no delay, 1262–1265——The furnaces and machinery of the Mint belong to the public; the repairs are made by the melter, 1266.

Witness makes up the pot-book, and delivers it to the comptroller, that his computations may be checked in the Mint-office, 1267–1272——He keeps a journal, and three others are also kept, 1273, 1274——He computes the amount of alloy required, and is checked by the King's officers, 1275, 1276——Form of entry in the pot-book, 1277—— He locks up the bars himself; the check of the surveyor of meltings serves to preserve their identity, 1278–1286——This check does not occasion the slightest inconvenience or delay, 1287——The pots are small in proportion to the size of the coin required, 1288–1290——In melting fourpenny pieces, the pots are 50 or 60 lbs. troy, 1291, 1292

Report, 1837—*continued.*

Mathison, Mr. *G. F.* (Analysis of his Evidence)—*continued.*

——The melter weighs the alloy, and places it in bowls numbered like the pots; the surveyor checks the weight and delivers the alloy to the workmen, 1293, 1294——The size of pots and the quantity of metal that can be melted in a day, 1295–1298——The surveyor of meltings is present the whole time, 1299–1303——After the melting, assays are taken to the King's assayer, 1304–1308, and the bars are then locked up in the stronghold until they are delivered to the moneyers, 1309–1311.

No delay arises in the melting department unless the gold has to be refined, 1312–1315——If due notice were given of the coarseness of the metal, no delay would be occasioned by refining, 1316–1319——It seldom happens that the gold is too coarse, 1320——Mr. Morrison, when melter, introduced iron pots instead of earthenware, 1321–1323——The reduction of the contract prices has been caused in part by the use of iron pots, 1338, 1339——The difference of the cost of coinage in France is not caused solely by the price of labour, 1340, 1341——The French use large wrought-iron pots; the contractors can keep their men always at work by purchasing bullion; in England the coinage is uncertain, and the workmen must be retained, 1342, 1343——The assayers of the French government assay the coin only, 1344–1353——Examination as to the necessity of all the checks in the English Mint, 1354–1358.

In the melter's establishment, there is a clerk and four workmen, 1359–1366——Their names and wages; they are employed both in melting and refining, and are paid entirely by witness, 1367–1382——Other expenses, 1383, 1384——The wages are paid whether they are employed or not; their health is affected by refining, 1385–1389——Occasional workmen are employed when the melting is in full operation, 1390–1392——Difference in the expense of fuel in London and in Paris, 1393, 1394——And of cast-iron and wrought-iron pots, 1395–1397——A person in France would be content with half of witness's emoluments, as the general scale of income is less, 1398, 1399——Examination of Mr. Barton's plan for compensating witness for the withdrawal of his profits on the alloy; difficulty and delay that would be occasioned by the new plan, 1400–1414——No collusion can take place in the addition of alloy to the scissel pots without the cognizance of the whole Mint-office, 1436–1439——Value of the perquisite, 1816–1837. 1440–1443.

[Second Examination.]—He provides the materials used in the refining department, 1660, 1661——Is bound to keep the machinery in repair, 1662-1665——Manner in which the public gained by extracting the gold from old sixpences in 1831, 1666–1680——By refining brittle gold bars, 1681–1693——Charges for melting sixpences and dollars, 1694–1697——The new dollars contain no gold, 1698–1703——As to the silver contained in sovereigns, 1704–1715——Copper alloy is as good as silver for the durability of the coin, 1716–1721——Charges for refining for the Government and for the Bank, 1722–1738——The refining apparatus was purchased of witness by the Government, 1739–1743——The process of separating the precious metals described, 1744–1751——Comparative charges of refining in France and England, 1752–1771. 1783–1791——Estimate of the French government of the expense of a refining establishment, 1772–1774——Probability of an increase in the business of refining, 1775–1781.

Mathison, Bingley, Barton and *Morrison.* (Analysis of their Evidence.)

[*Mathison.*] Account of gold and silver pots stopped, 1828–1836, 1509——Examination as to waste and the addition of alloy, 1510–1543.——[*Bingley.*] Mode in which alloy is added to the scissel pots; the copper is provided by the melter, 1544–1551——Difficulty of making a computation of the waste before the melting, 1552–1564.——[*Mathison.*] The melter cannot add more alloy than the King's assayer directs, 1565–1573——Frequency of repairs required in the furnaces, 1577——If the ingots are more than when first entered, the profit goes to the importer; if less, the loss is borne by the melter, 1579–1581——He has an allowance for melter's ends and assays; its amount he considers private, 1582–1586——Examination as to payments for remelting, 1587–1589.——[*Barton.*] If the pots are stopped on account of the melter's negligence, he is not paid for remelting; in other cases, he is paid, 1590–1595.——[*Mathison.*] The same workmen could not perform the duties of melting and moneying, as both operations are conducted at the same time, 1596–1601.——[*Morrison.*] The discretion of adding alloy to the scissel-pots should be continued with the King's assayer, 1602–1608——The scissel-pots are very seldom coarser than the standard, 1609——If any great deviation from the standard should appear, a report should be made to the Board, 1610–1616.

[*Bingley.*] The plan of Mr. Barton discontinuing the addition of alloy to the scissel pots, would occasion much delay, 1617——Collusion would be possible between the King's assayer and the melter, 1618——The Board cannot have authority to decide upon a question connected with a contract with the Government, 1619–1623——If the contract of the melter should be revised, his profits from the alloy should not be continued, if an equally expeditious plan could be substituted, 1624–1627. 1635–1644——The King's assayer is responsible for the alloy added, and the Board should not interfere, 1628–1630——A record is kept of the alloy added, 1631–1634.——[*Morrison.*] Case of Mr. Fitzpatrick, who purloined silver from the bags in the stronghold; the loss was sustained by the higher officers, 1649–1653——The officers of the

Report, 1837—*continued.*

Mathison, Bingley, Barton and *Morrison.* (Analysis of their Evidence)—*continued.*
the Mint are responsible for losses, except in cases of burglary; in 1832 a watchman stole some precipitated silver; the melter bore the loss, 1654–1659.
See also *Sharp, Mathison, Morrison* and *Atkinson.* (Analysis of their Evidence). *Johnson,* Mr. *P. N.,* (Analysis of his Evidence).

Mathison, G. F. Articles of agreement indented and agreed upon in 1828, between Mr. Herries, the Master of the Mint, and Mr. Mathison, first clerk of the said Master, *App. p.* 23——Articles of agreement, 1833, between Mr. Mathison and Lord Auckland, Master of the Mint, relating to his new mode of refining, &c., *App. p.* 25——Letter to Lord Ashburton, April 1835, on Mr. Barton's objection, as comptroller, to allow him the profit on the alloy added to the ingot pots, *App. p.* 36——His report to the Master of the Mint on the state of the melting and refining departments, *App. p.* 55——He entered with zeal into the undertaking of experiments on the new process of refining; his success, *App. p.* 62.
See also *Melter* and *Refiner. Refining.*

Matrices. See *Clerk of the Irons. Dies.*

Medallist. See *Pistrucci,* Mr.

Maundy Monies. Weight thereof coined at the Mint in 1835; number and denomination of pieces; rate of charge and total amount charged, *App. p.* 71.

Melter and Refiner:
1. *His Contract, Duties and Allowances.*
2. *Establishment.*
3. *Papers laid before the Committee.*

1. *His Contract, Duties and Allowances:*
Regulates the size of the pots and selects the ingots for melting, *Morrison* 121——His duties explained; he performs them by contract; nature of the contract; he is also the Master's first clerk, *Morrison* 129–143——He holds a contract, determinable on three month's notice, to execute his duties at rates specified in the indenture, *Mathison* 1214–1216——It has been usual to bring up a probationer to the office, *Mathison* 1217–1219——He locks up the bars himself; the check of the surveyor of meltings serves to preserve their identity, *Mathison* 1278–1286.
He makes up the pot-book, and delivers it to the comptroller, that his computations may be checked in the Mint-office, *Mathison* 1267–1272——He keeps a journal; three others are also kept, *Mathison* 1273, 1274——He compares the amount of alloy required and is checked by the King's officers, *Mathison* 1275, 1276——The terms of the contract were reduced by Lord Maryborough; the present melting prices are one-half the trade price, *Mathison* 1223–1228——The bond entered into by him is 5,000 *l., Mathison* 1229——He has an allowance for melter's ends and assays, *Mathison* 1582–1586——

2. *Establishment:*
There are a clerk and four workmen in his establishment, *Mathison* 1359–1366——Their names and wages; they are employed both in melting and refining, and are paid entirely by him, *Mathison* 1367–1382——Their wages are paid whether they have work or not; their health is affected by refining, *Mathison* 1385–1389——Occasional workmen are employed when the melting is in full operation, *Mathison* 1390–1392——Other expenses of the establishment, *Mathison* 1383, 1384——Whether the union of his contract with that of the moneyers, would be conducive to economy, *Mathison* 1242–1245, *Atkinson* 1884–1887——If the two contracts were united the same checks would be necessary for the security of the public, *Mathison* 1250, 1251.

3. *Papers laid before the Committee:*
His prices, by agreement with the Lords of the Treasury in 1803; deductions proposed by Mr. W. Pole in 1815, *App. p.* 11——His charges to be agreed upon between him and the Master, and approved by the Commissioners of the Treasury, according to the indenture, *App. p.* 14——Schedule of the highest prices to be allowed to the melter under the indenture, upon every pound weight troy of gold and silver monies coined and delivered, *App. p.* 19——Schedule of prices at which the melter agrees to take the contract of melting, *App. p.* 19——Articles of agreement between Mr. Mathison and Mr. Herries, Master of the Mint, in 1828, for melting and refining all gold and silver necessary for coinage, *App. p.* 23.——Articles of agreement, 1833, between Mr. Mathison and Lord Auckland, Master of the Mint, relating to his new mode of refining' *App. p.* 25.
Required to reside within the Mint, (Indenture,) *App. p.* 17——Sums paid to him in each year from 1816 to 1837, on account of the coinage of gold, silver and copper monies, *App. p.* 70——Statement in detail, of sums paid to the melter in each year, from 1816 to 1837, for gold, silver and copper coinages (including private coinages) and other services, *App. p.* 228——United States: duties, powers and salary of the melter and refiner of the Mint of the United States of America, *App. p.* 209–211.
See also *Alloy. Mathison,* Mr. *G. F. Melter's Ends. Melting. Refining. Refining Department. Robberies.*

Report, 1837—*continued.*

Melter's Ends. Are the scrapings of pots, clippings of bars, &c.; vigilance must be exercised to prevent inferior metal from being introduced with them into the scissel pots, *Buckham* 1051–1058——They are collected and locked up in the custody of the surveyor of meltings, *Buckham* 1063–1067——Should be melted separately and returned to the master's assay office, instead of being mixed with the scissel, *Bingley* 2589.

See also *Alloy.*

Melting:

1. *Generally.*
2. *Papers laid before the Committee.*

1. *Generally:*

The Committee proceeded to the melting-house to witness the operation of melting gold ingots; the whole process described, *Ev. p.* 149——The manner of distributing the metal into the different pots explained, *Buckham* 1038, 1039——When copper is put into the gold or silver the quantity of gold or silver gained is equal to the alloy, *Buckham* 1046–1048——This surplus is the profit of the melter, *Buckham* 1049, 1050.

The bars were formerly melted to the thickness of the particular coin required, but bubbles were often caused, and now the bars are melted only to the thickness of an inch, and afterwards reduced by rollers, *Atkinson* 1907——It takes as long to melt 10,000*l.* worth of gold as 100,000*l.*, *Mathison* 2194——Bullion is generally melted the day after it is received, but this must depend on the assayer, *Mathison* 2195, 2196——When the melting is completed assays are taken to the King's assayer, and the bars are locked up in the stronghold until they are delivered to the moneyers, *Mathison* 1304–1311——No delay takes place in the melting department unless the gold has to be refined, *Mathison* 1312–1315——If due notice were given no delay would occur, *Mathison* 1316–1319——Gold is seldom too coarse, *Mathison* 1320.

The furnaces and machinery belong to the public; the repairs are made by the melter, *Mathison* 1266——The size of the pots are regulated by the description of coin required, *Mathison* 1288–1292——The size of pots, and the quantity of metal that can be melted in a day, *Mathison* 1295–1298——Mr. Morrison, when melter, introduced the iron pots instead of earthenware, *Mathison* 1321–1323——The introduction of iron pots has effected a considerable saving, *Morrison* 1324–1337——The reduction in the prices of melting has been caused partly by the use of iron pots, *Mathison* 1338, 1339——The wrought-iron pots used in France would not answer in our Mint, because copper may not be added to prevent oxydation, *Mathison* 1397.

Evidence relative to the waste in melting and the addition of alloy, *Mathison* 1510–1543——Difficulty of making a computation of the waste before the melting, *Bingley* 1552–1564——Frequency of repairs required in the furnaces, *Mathison* 1577——If the ingots prove more than when first entered, the profit goes to the importer; if less, the loss is borne by the melter, *Mathison* 1579–1581——If the pots are stopped on account of the melter's negligence he is not paid for remelting, in other cases he is paid, *Mathison* 1587–1589——If a bar comes from abroad which has been melted carelessly, one end may be better than another, *Sharp* 2173——No objection would be made at the Mint to receive gold which had been melted by any respectable melter besides Brown and Brind, but they would be tried, *Mathison* 2191–2193.

The same workmen could not perform the duties of melting and moneying, as both operations are conducted at the same time, *Mathison* 1596–1601——No economy would result from the union of the melting and moneying contracts, *Atkinson* 1884–1887.

2. *Papers laid before the Committee:*

Estimated saving to the public by Mr. W. Pole's purposed reduction of the rates of melting gold and silver, *App. p.* 8——Report of Mr. Mathison, the melter, to the Master of the Mint, on the state of the melting and refining departments, *App. p.* 55——Comparative prices for melting by the melter's contract and by the trade, showing a saving to the public of one-sixth, (Melter's Report,) *App. p.* 56——Suggestion that the melting contract should be transferred to the Company of Moneyers, (Messrs Garbett's Report,) *App. p.* 217——Account of the receipts, disbursements and net profit on melting for coinage, with the amount in weight and value, for which the melter has been responsible, from 1828 to 1836 inclusive, *App. p.* 233.

See also *Bank of England. Brown* and *Brind. French Mint.*

Melting House. See *Sweep.*

Mercury. Is occasionally found in combination with the fine metal in ingots, which are therefore unfit for coinage, (King's Assayer's Report,) *App. p.* 43.

Mexican Dollars. See *Dollars.*

Mexico. See *Silver.*

Milan. See *Dies.*

Mint. Our Mint is the most effective in the world; the officers of all the Mints of Europe have visited it and expressed the same opinion, *Atkinson* 1985.

See also *Board,* The. *Clerks. Establishment of the Mint. Government of the Mint, &c.*

Report, 1837—*continued.*

Mint Duties. Being certain duties upon brandy and strong waters, appropriated to the support of the Mint establishment; statement concerning them, (Messrs. Garbett's Report,) *App. p.* 221.

Mint Stamp. See *Imperial Brazilian Mining Company.*

Miscellaneous Receipts. On account of various matters specified, should be placed on the charge side of the Master's account, (Deputy Master's Report,) *App. p.* 30.

Mocatta & Goldsmid. The Bank brokers send contracts to different parties for the supply of bullion, who bring their bars to the Bullion-office to be weighed, *Haggard* 2344——Are the only brokers employed by the Bank, *Haggard* 2435, 2436——Amount paid them in 1835 by the deputy-master of the Mint as brokerage for the purchase of bullion, with the rate of brokerage, *App. p.* 72.——*See* also *Commissariat Department.*

Modeller. The establishment of an office of modeller recommended by Mr. W. Pole, in 1815, to be appointed during pleasure by the Treasury, at a small Salary, *App. p.* 6.

Moneyers, Provost and Company of:

1. *Constitution and Privileges.*
2. *Receipts, Expenses, &c.*
3. *Papers laid before the Committee.*

1. *Constitution and Privileges:*

Their constitution and duties; mode of taking apprentices, *Morrison* 145–164——Consists of a provost and senior and junior members; number at different periods, *Atkinson* 1796–1801——Antiquity and doubtful origin of the company, *Atkinson* 1795——They possess landed estates, a working capital and money in the funds, *Atkinson* 1819–1837——There are houses belonging to the Government appropriated to their use, *Atkinson* 1838–1840——No alteration has been made in the contract since 1770, except a reduction of 2 per cent. in 1820 on introducing a new engine called the drawbench *Atkinson* 1841–1846——The duties and contract explained, *Atkinson* 1847–1848.

They have an exclusive right to be employed in coining, but the prices are determined by the contract and may be altered, *Atkinson* 1849–1867——Messrs. Bolton wished to undertake to coin some silver, but were not permitted because the moneyers were considered to have a legal claim to the business, *Atkinson* 1868, 1869. 1876, 1877——The Council-office decided that the moneyers ought to coin the Bank tokens, *Morrison* 1878——The company would protest against the employment of any other persons in coining, *Atkinson* 1879, 1880.

The agreement made between the Master of the Mint and the Company of Moneyers should be made more distinct, *Barton* 510–513——No economy would be secured by the union of the contracts of the melter and the moneyers, *Atkinson* 1884–1887.

2. *Receipts, Expenses, &c.:*

The business of the moneyers is very fluctuating, *Barton* 555–567——Their operations would be less frequently interrupted if a fund were established so as to enable the importer of bullion to receive part of the value immediately in coin, *Barton* 597–600——Examination as to the inducement this would be for merchants to have their bullion coined for exportation; means of preventing such a practice, *Barton* 601–627——Six are required for the ordinary business of coinage, and as some may not be fit for active service the number should never be reduced below seven, which is the present number, *Atkinson* 1949–1954——The expenses of their department are controlled by the deputy-master, the comptroller and King's clerk, who in doubtful cases submit the question to the Board, *Barton* 543, 544.

Receipts and expenses of the Company for 12 years, from 1770 to 1781 inclusive, copied from Mr. Garbett's Report, *Atkinson* 1881——Similar account for 10 years, from 1827 to 1836 inclusive, copied from their books, *Atkinson* 1881——Explanation of these accounts, *Atkinson* 1882–1883——Extracts from the Reports of Messrs. Garbett in 1783, and of the Finance Committee in 1798, on the efficiency and value of the establishment of the moneyers, *Atkinson* 1955–1959——Extract from the Report of Mr. Wellesley Pole to the Committee of the Privy Council, in 1815, showing why the rates at which the moneyers contracted should not be reduced, *Atkinson* 1960, 1961.

3. *Papers laid before Committee:*

Mr. W. Pole's proposal for imposing on them the obligation of keeping the machinery in repair at the same rates of charge for coinage, *App. p.* 5, 6——Allowances proposed to be discontinued as part of the arrangement and saving to be effected thereby, *App. p.* 8——Bullion to be delivered to them in clear bars, and seven-twelfths to be returned in coin, five parts in twelve only being scissel, (Indenture,) *App. p.* 14——Are strictly commanded not to vend, pay or distribute any coined monies until after they have been duly assayed and pyxed, (Indenture,) *App. p.* 18——Articles of agreement between Mr. W. Pole, the Master of the Mint, and the Provost and Company of Moneyers, 1820, *App. p.* 20.

Report, 1837—*continued.*

MONEYERS, Provost, &c.—3. *Papers laid before the Committee*—continued.

Schedule of the highest prices to be allowed to the moneyers under the indenture for every pound weight troy of gold and silver monies coined and delivered by them, *App. p.* 19——Schedule of the rates agreed upon for gold and silver, *App. p.* 22——Sums paid to them in each year from 1816 to 1836 for the coinage of gold, silver and copper monies, *App. p.* 70——Statement in detail of the amount paid to the moneyers from 1816 to 1837, distinguishing the amount paid for gold, silver and copper coinages (including private coinages), in each year, *App. p.* 228——Refused Messrs. Garbett permission to inspect their accounts, but delivered an annual account in gross of the expenses and profits for 12 years previous to 1782, *App. p.* 216——Suggestion that the contract of melting should be transferred to the moneyers, (Messrs. Garbett's Report,) *App. p.* 217.

Report from the Provost and Company of Moneyers to the Right Hon. H. Labouchere, Master and Worker of the Mint, *App. p.* 53.

Dutch Mint. There is a company of moneyers, consisting of a provost and 12 members, in the Dutch Mint at Utrecht, *App. p.* 213——Their appointment is made by the Mint Board, on the recommendation of the Master; their numbers may exceed 12, but is never less, *App. p.* 214.

See also *Accounts. Apprentices. Artificers. Barton, J.,* Esq. *Coinage. Drawbench. Garbett,* Messrs. *Machinery. Melter and Refiner. Operative Department. Robberies. Wages.*

Money Presses and Coins. See *Surveyor of Money Presses and Coins.*

Montbel, Ministre des Finances. Son rapport au Roi, 6 Juin 1830, sur le nouveau mode d'essai des espèces et matières d'argent, *App. p.* 173.

Morgan, Maurice, Esq. Average of his clear annual profits as weigher and teller, (Messrs. Garbett's Report), *App. p.* 218.

Morrison, James. Average of his clear yearly profits as deputy-comptroller and King's clerk of the copper coinage, *App. p.* 219.

Morrison, Mr. *James William.* (Analysis of his Evidence.)—Has been deputy-master of the Mint 34 years, and was for 10 years clerk and under-melter, 1–6——The several branches of the Mint enumerated, 7——The government of the Mint composed of the master, deputy-master and a board of officers, 8–10——Duties of the Master; security given by him; his salary, 11–13——The deputy-master performs all the duties described in the indenture as the executive duties of the Master; his salary and emoluments, 14–17——Regulations under which the gold and silver plate manufactured in Sheffield and Birmingham are assayed at the Mint; this plate exceeds the standard in fineness, 18–31——The King's assay-master tries the bars which are melted before they are put into the process of coinage, 32–40——Other duties of assay-master in weighing the coin; the process of the pyx described, 41–45. 110.

The Board meets every Wednesday; their duties, 46, 47——The minutes of the proceedings are not very full; the ordinary routine is not entered in their books, but duplicates of all requisitions signed by them are preserved, 48–69——The Master only interferes in matters of great importance; case in which Lord Maryborough interfered, 70–73——Prosecutions are entered into by the sanction of the Board only, 74, 75——The Master occasionally attends the Board; communications with the Treasury are conducted by the Master or deputy-master, 76, 77——The indenture read by which the Board is constituted, 78, 79——It is important that more perfect minutes should be taken, but there is no secretary to the establishment, 80–85——Since 1835 the duty of purchasing bullion for the Commissariat has been imposed upon the deputy-master, who has employed Mr. Mocatta as broker; accounts of purchases, &c., 86–101.

Check department, how constituted; they inspect all processes of coinage and accounts, 102–105. 124, 125——Duties of the comptroller, 106, 107——The system on which cash accounts are kept, 108, 109——The weigher and teller determines by his scale the weight of all metal, whenever that is to be ascertained, 110–112——The other officers who are present at the weighing, 113——Duties of the surveyor of melting; he sees that the composition of the metals which adjusts the standard, as entered in the pot-book, be put into the pots, 114, 115——Each pot is made up of ingots previously assayed, and the quantity of alloy has already been determined by the comptroller and others, 116–121——The clerk of the irons has the care of all the matrixes, puncheons and dies, and keeps an account of them, 122, 123——The operative department; how composed, 126——Duties of the master's assayer in that department, 126, 128——Of the melter and refiner, who performs them by contract; nature of the contract, 129–143——Private money may be coined at the Mint under sanction of the Government, 144.

Constitution and duties of the Provost and Company of Moneyers, 145–164——Duties of the chief and second engraver; they are paid by salary and are allowed to work for private individuals, 165–170——The office of superintendent of machinery is attached to the clerk of the irons, 171——Clerks of the Mint; deputy-master's assistant clerk, 172–175——The process of die making described, 176——M. Pistrucci is chief medallist; he was appointed chief engraver, but his appointment was not signed by the Crown

Report, 1837—*continued.*

Morrison, Mr. *James William.* (Analysis of his Evidence)—*continued.*

Crown in consequence of an Act of Will. 3; witness attributes the improvements in the coin to him, 177–197——The process described from the time when an ingot is imported into the Mint until it is issued in money, 198——Ingots are not received at the Mint unless previously tried by the King's assayer, who receives a fee from the owners, 199–214——Examination as to the amount of fees received by Mr. Bingley, 215–229——Mr. Bingley has always used the coal, water-silver, and other materials necessary for assaying, provided at the public expense, 230–258. 260——Witness has no emolument whatever in connexion with these private assays, 259——The Mint report is compared with the report of the purchase assay, and delivered to the master's assayer, 261–266——The Master gives to the Bank the full value of the gold assayed, 268–271.

[Second Examination.]—The Bank derives the profit arising from the difference between the report of the master's assayer and the assay by which the Bank purchased the gold, 272, 273——The merchant who may have sold the gold to the Bank loses the difference, 274–283——The calculation of the Mint rests upon the report of the master's assayer, 284–288——If the merchant brings his gold direct to the Mint he has the benefit of any difference in the two assays, 289–291——For several years the Bank have been the only importers, because private individuals would lose by the delay of coinage, 292–297——Fees which witness has received on account of private coinages, 298–301——The cash accounts of the Mint are now kept on the system of double entry, 302–306——Mode in which charges are made for private coinages; profit of the Government, 307–311.

[Third Examination.]—The introduction of iron pots effected a considerable saving in the process of melting, 1324–1337.

[Fourth Examination.]—The present system of adding alloy to the scissel pots is preferable to that proposed by Mr. Barton, 1430, 1431—— Difficulty of collusion in the addition of alloy, 1432–1436.

[Fifth Examination.]—Authority under which fees are paid to the bullion porter, 1466–1471.

[Sixth Examination.]—Extract from the Mint Indenture relative to the trial of the pyx by a jury of goldsmiths, 2028——Further particulars; the monies have never been beyond the remedy, 2029–2037——Mode in which the jury are selected, and their place of meeting, 2038–2046——The trial is made on pieces promiscuously taken, 2047–2052——The verdict of a jury read, &c. 2053–2056.

See also *Bingley*, Mr. *H.* and Mr. *Morrison* (Analysis of their Evidence). *Mathison, Barton, Bingley* and *Morrison* (Analysis of their Evidence). *Sharp, Mathison, Morrison* and *Atkinson* (Analysis of their Evidence).

Morrison, Mr. Letter to Mr. Herries in reference to Mr. Mathison's report on the refinery, *App. p.* 61——Reply of Mr. Herries thereto, testifying to the public utility of the new process, *App. p.* 61——His correspondence with the Governor of the Bank explaining the importance of the new process, *App. p.* 63.

See also *Melting.*

Morrison, Mr. *William Hampson.* (Analysis of his Evidence.)—Clerk-assistant to the deputy-master, 1165——Date of appointment and salary, 1166–1168——The circumstances related which suspended the gratuities to officers for length of service, recommended by Lord Maryborough, 1169–1172——It is the general practice for the clerks of the establishment to be promoted by seniority, 1173–1175——The highest salary is 200*l.* a year; the lowest, two guineas a week, 1176–1180——A clerk was appointed probationer assayer, 1181–1183——Witness's duties consist in generally assisting the deputy-master, in registering papers, &c., 1184——The extra clerks are now considered permanently on the establishment, and entitled to a superannuation allowance, 1185–1191——£.18 was received by each clerk in 1830 as fees upon the Portuguese coinage, 1192–1197——Hours of attendance, and responsibility of the clerks, 1198–1203.

Mourgeon, M., of Besançon. Result of his experimental assays, *App. p.* 116.

Mushet, Mr. See *Encyclopædia Britannica.*

N.

Newcastle-upon-Tyne Assay Office. Value of gold and silver trial plates directed to be delivered thereto in 1830, *App. p.* 245.

New Orleans. A branch Mint of the United States, for general coinage, has been established there, but is not yet in operation, (Mr. Patterson's Letter,) *App. p.* 208.

Nicol, Mr. See *Apprentices.*

North Carolina. A branch Mint of the United States has been established there for the coinage of gold only, but is not yet in operation, (Mr. Patterson's Letter,) *App. p.* 208.

Norris, Thomas. Average of his clear yearly profits as deputy to the King's clerk and clerk of the papers, *App. p.* 219.

O.

Ocks, Ralph. Average of his clear yearly profits as second engraver, (Messrs. Garbett's Report,) *App. p.* 218.

Oil. See *Machinery.*

Ommaney, Mr. See *Apprentices.*

Operative Department. Composed of the master's assayer, master's first clerk, melter and refiner, provost and company of moneyers, chief and second engraver, and superintendent of machinery, *Morrison* 126——Recommendations of Mr. W. Pole to the Committee of the Privy Council for introducing certain improvements therein, *App. p.* 4.

Officers. Mr. W. Pole's proposed arrangement for the appointment and salaries of the officers of His Majesty's Mint, *App. p.* 9.

Offices, Abolition of. List of offices in the Mint proposed to be abolished by Mr. W. Pole; their salaries and emoluments, and saving to the public, *App. p.* 8.

Order in Council. Approving of the plan submitted by the Right Hon. Wellesley Pole for improving the establishment of the Mint, *App. p.* 1.

Ordnance Department. Comparison of the scale of salaries of the clerks therein with those of the Mint clerks, *App. p.* 69.

Oxydation. See *Melting.*

P.

Palladium. Is often found combined with silver in the ingots, which are therefore unfit for coinage, (King's Assayer's Report,) *App. p.* 43.

Palmer, Mr. *Horsley.* His letters expressing the opinions of the directors of the Bank on the importance of the new process of refining in preventing the export of coin in preference to gold bars, *App. p.* 63——Letter to Lord Auckland stating it to be the intention of the Bank to apply the new process of refining to their future purchases of the precious metals, *App. p.* 68.

Paris. See *Silver.*

Paris, Mint of. See *Dies. French Mint.*

Parting Assays. There is no establishment but the Mint at which the silver is separated from gold by sulphuric acid, *Johnson* 2305–2307.——*See* also *Assays.*

Patterson, Mr. *R. M.* His letter to Mr. Buchanan on the subject of the Mint of the United States of America, *App. p.* 209.

Paymaster of Civil Services. Comparison of the scale of salaries of the clerks in his office with those of the Mint clerks, *App. p.* 69.

Pearson, Mr. *J.* (Analysis of his Evidence.)—Has been bullion porter since 1828, 1444, 1445——His duties, 1446——Salary and fees, 1447–1465——No fees of a similar nature are paid to other officers; they have been suspended by the Bank, 1472–1477——His predecessor had fees connected with the refining department which witness has not received, 1478–1482——He is paid 35 *l.* a year for sweeping the Mint premises, 1482–1490——Previous to his appointment in 1828, he was employed as a messenger, 1491–1495——He attends all importations and weighing, 1496–1499——The master's porter attends the scales when gold and silver are weighed, 1500, 1501——Witness takes charge of the stationery, and distributes it under the directions of the Board, 1502–1508.

Peculation. See *Robberies.*

Peg, Samuel. Average of his clear yearly profits as fireman and clerk to the King's assayer, *App. p.* 219.

Pence. Account of the weight, number and value of silver pence coined in each year, from 1 January 1816 to 31 December 1836, *App. p.* 226——Similar account of copper pence, *App. p.* 227.——*See* also *Copper Coinage.*

Pensylvania. The judge and attorney of the United States for the district of, and the collector of the port, to be Commissioners for the trial of the standard of American coins, *App. p.* 213.——*See* also *United States Mint.*

Perret, M., of Lyons. Result of his experimental assays, *App. p.* 116.

Report, 1837—*continued.*

Peru. See *Silver.*

Pickling Room. The pieces are here boiled in a weak acid to restore their colour after the annealing, *Ev. p.* 150.——*See* also *Drying Room.*

Pigot, Sir *Robert.* Warder of the Mint; average of his clear yearly profits, (Messrs. Garbett's Report,) *App. p.* 218.

Pilfering. See *Robberies.*

Pingo, Lewis and *John.* Average of their clear yearly profits as chief and third engravers, (Messrs Garbett's Report,) *App. p.* 218.

Pistrucci, Mr. Is chief medallist; he was appointed chief engraver, but his appointment was not confirmed by the Crown in consequence of an Act of Will. III.; evidence respecting his abilities and works, *Morrison* 177–197.

Pix. See *Pyx.*

Platina is often found combined in different ways in ingots of silver, which are therefore unfit for coinage, (King's Assayer's Report,) *App. p.* 43.

Pöelmen, Mr. Assayer and one of the directors of the Mint at Utrecht; his memorandum on the Dutch Mint, *App. p.* 213.

Pole, Right Hon. *W. Wellesley.* His plan for improving the establishment and constitution of the Mint, as submitted to the Lords of the Committee of the Privy Council for Coins, &c. in 1815, *App. p.* 1.
See also *Apprentices. Gratuities. Master of the Mint. Private Coinage.*

Porter. Average of clear yearly profits of the office when held by John Kempe, (Messrs. Garbett's Report,) *App. p.* 219.

Portuguese Coinage. In 1830, 18*l.* was received by each clerk as fees upon the Portuguese coinage, *Morrison* 1192–1197——Weight coined in 1835; number and denomination of pieces; rate of charge, and total amount charged, *App. p.* 71.
See also *Private Coinage.*

Pot Assay. To be made of some bar of bullion to be taken by the comptroller, King's assayer or surveyor of meltings, after the pot is cast out, *App. p.* 15.

Pot Books, The. Describe the ingots to be melted, and the quantity of alloy to be added in each pot, and is examined by the comptroller and King's clerk, *Morrison* 115–120——Contents thereof; are kept by the melter and examined by the comptroller and King's clerk, *Ev. p.* 147——Mode in which they are made up, *Croasdaile* 846–851——Form of entry, *Mathison* 1277——They will show the real weight of the ingots when imported, and the amount of alloy added to each pot, *Croasdaile* 852, 853——A record of the alloy added to the pots of ingots as well as scissel, is kept by the surveyor of melting, *Croasdaile* 854–857——To declare the combination of the metals for melting, the quantity, fineness, &c.; to be examined monthly or oftener, and subscribed by the comptroller and King's clerk, (Indenture,) *App. p.* 15.
See also *Alloy. Melter and Refiner.*

Prévost, M. of Marseilles. Result of his experimental assays, *App. p.* 116.

Private Assays. Examination relative to the fees received by Mr. Bingley for private assays, *Morrison* 215–229——He has always used the coal, water-silver, and other materials necessary for assaying, provided at the public expense, *Morrison* 230–258. 260, *Bingley* 322–331——Accuracy and dispatch are secured by the private assay of the King's assayer, *Bingley* 385–389——An additional examination by the master's assayer might be substituted, but would not ensure equal accuracy, *Bingley* 390, 391——The cost of office materials for one year in private assays, including everything but the charcoals, acids and water-silver, *Bingley* 366–375——The fees received are considered private, but an account was returned to the House of Commons, *Bingley* 332–334——The greater portion of the bullion assayed never comes to the Mint for coinage, *Bingley* 335–338——Sums received for the last 15 years, *Bingley* 415–423.

The fee for assaying an ingot of gold was raised in 1814 from 3*s.* to 5*s.*; reduced by witness to 4 *s.*, *Bingley* 360–365——They are paid without reference to weight, *Bingley* 431–434——The charges of private assays are considerably less; those made by the King's assayer are not settled by the public, *Bingley* 376–380. 453, 454——The greater part of the private assaying in London was done by the late King's assayer; his assays were preferred, *Bingley* 403–408——The charges of the King's assayer are not complained of, although greater than those of other assayers, *Sharp* 2231–2236——Gold that has been assayed by him is preferred in the market, but not in proportion to the charge, *Sharp* 2237, 2238——More confidence is placed in Mr. Bingley's assay than any other by purchasers, particularly abroad, *Haggard* 2360–2364——His charges, *Haggard* 2365.

Double assays are taken to secure accuracy when the bars are of importance, *Johnson* 2320——The double assays of Mr. Johnson and Mr. Bingley are conducted on the same

Report, 1837—*continued.*

Private Assays—continued.

principle, *Haggard* 2457–2462——Bullion assayed by Mr. Bingley formerly had a higher value, but since Mr. Johnson has adopted the same method of assaying this has not been the case, *Haggard* 2464–2467——The only reason for preferring Mr. Bingley's assay is because he has the authority of a public officer, *Marshall* 2463——Although Mr. Bingley assays for the Bank as an individual, his assay is known by all purchasers as that of the King's assayer, *Marshall* 2468, 2469——The preference given him by the Bank may also further establish his authority, *Marshall* 2470——The seller of bullion pays for the assay; in the coinage of guineas, the Bank paid for the assay, *Marshall* 2471, 2472——The Bank has melted much silver and paid for the assays, *Haggard* 2473.

See also *Assays. Bank of England. Bingley,* Mr. *H. Gold. King's Assay Master. Lucas,* Mr.

Private Coinage. May be conducted at the Mint under the sanction of the Government; Demerara and Portuguese coinage, *Morrison* 144——Fees received by the deputy-master, *Morrison* 298-301——Mode in which charges are made for private coinages; profit of the Government, *Morrison* 307–311——The fees are received under the authority of Lord Maryborough, *Barton* 799–801——Mr. Wellesley Pole's opinion in favour of the continuance of the fees, *App. p.* 3——Return of fees received, and the persons to whom paid, and how much each received in each year from 1816 to 1836, *App. p.* 94.

See also *Colonial Coinages.*

Privy Marks. The Master authorized to put some privy mark upon the edges or flat sides of the coin, and to alter the same when he shall think fit, (Indenture,) *App. p.* 15.

Probationer Assayer. Amount of fees received by him on account of private coinages in each year from 1816 to 1836 inclusive, *App. p.* 94.

Profit and Loss Account. On the coinage entered in the Service Account Book, *Ev. p.* 148.

Prosecutions. Are entered into by the Board without the sanction of the Master, who is represented by the deputy-master, *Morrison* 74, 75——The expenses are annually voted by Parliament; objections of the Audit-office to the mode in which the solicitor is paid, (Deputy-master's Report,) *App. p.* 29——Statement of the average annual cost of prosecutions for six years, (Messrs. Garbett's Report,) *App. p.* 219.

See also *Solicitor to the Mint.*

Provincial Assay Offices. Value of the gold and silver trial plates, or parts thereof, directed to be delivered to each provincial Assay-office in 1830, *App. p.* 245.

Provincial Mints. The provincial Mints are of no use whatever; we had many in former times in this country, *Atkinson* 1986——The last provincial Mint in this country was in the reign of William the Third, *Atkinson* 2021.——*See* also *France,* Mints of.

Public Accounts, Commissioners for Auditing. The Master of the Mint to account yearly before them, (Indenture,) *App. p.* 17.

Puncheons. See *Clerk of the Irons. Dies.*

Purchases. Of bullion, dollars and coin for the Commissariat department, &c., how to be entered in the Master's account, (Deputy-master's Report,) *App. p.* 30——Return of all purchases of silver bars and dollars, stating whether such purchases were made for the Commissariat department or the Mint, from 1st January 1835 to 1st March 1837, *App. p.* 70.

Purchases and Sales. Entered in the Service Account Book, *p.* 148.

Pyx:

1. *At the Mint Office.*
2. *By a Jury of Goldsmiths.*
3. *At Foreign Mints.*

1. *At the Mint Office:*

The trial of the pyx at the Mint-office, as witnessed by the Committee, described, *Ev. p.* 150——The process of the pyx explained; if the monies are too heavy or too light it is recorded in the pyx books, *Morrison* 41–45——Witness invented a machine for counting money in the pyx room, which saves much time and secures accuracy, *Field* 1008.

The pyx is held on Tuesdays, *Morrison* 2199–2201——The pyx days have been settled by the Board with reference to the demands of the Bank, but might be altered for the convenience of private importers, *Bingley* 2564–2567——In December 1825, pyxes were taken every day, and there is no reason why that should not be done again if required, *Morrison* 2581——Proceedings in taking the pyx, (Indenture,) *App. p.* 16——Abstract of the trials of the pyx showing the date of each coinage, the value and amount of the coinage, and the pieces deposited in the pyx for trial, from 1816 to 1835, *App. p.* 74——Return of the pieces deposited in and released from the pyx at the last trial, and how accounted for by the Mint, *App. p.* 94.

2. *Papers*

Report, 1837—*continued.*

Pyx—continued.

2. *By a Jury of Goldsmiths:*

Proceedings in the public trial of the pyx by a jury of goldsmiths enumerated, *Morrison* 2028——There is no fixed time for the pyx; there is generally one on the appointment of a new Master, *Morrison* 2029——There is no record of any monies having been found defective; a case in the reign of Edward the Fourth was mentioned by Lord Brougham, but it appears that the coin was then within the remedy, *Morrison* 2037——A certain number only of the pieces are melted for the assay, *Morrison* 2048–2052——Verdict of the jury, March 1836, read, *Morrison* 5053——It does not report the exact fineness above or below the standard, *Morrison* 2056.

3. *At Foreign Mints:*

Dutch Mint.—Mode in which the trial of the pyx is conducted by the officers of the Dutch Mint at Utrecht, *App. p.* 213.

French Mint.—The trial of the pyx is the only check in the French Mint, *Mathison* 1252–1256.

United States Mint.—A trial of the weight and fineness of the coins of the United States of America by commissioners appointed by the President, provided by Act of Congress, *App. p.* 212.

See also *Chancellor of the Exchequer. Duchy Court. Exchequer,* Comptroller of. *King's Remembrancer. Lord Chancellor. Standard. Treasury.*

Q.

Quarter Dollars. See *Dollars.*

Quarter Eagle. See *Eagle.*

R.

Rates. Book containing the account of the rates allowed to the Master by the indenture is no longer kept, *Ev.* p. 148.

Receiver of the Master's Fees. A book showing certain fees and the appropriation thereof has ceased to be kept since 7 Will. 4, c. 9, *Ev. p.* 147.

Refining. Effect of the new process in preventing the refinement of sovereigns in Paris, and thus diminishing the wear and tear of the coin (Melter's Report,) *App. p.* 56—— Report from the refiner of the Mint to Lord Auckland respecting the new process, September 1831, *App. p.* 59——Mr. Morrison's letter to Mr. Herries in reference to Mr. Mathison's report on the refinery, *App. p.* 61——Mr. Herries' letter to Mr. Morrison, testifying to the public utility of the new process, *App. p.* 62——Correspondence between Mr. Morrison and the Governor of the Bank, explaining the importance of the new process, *App. p.* 63——Second report of the refiner to Lord Auckland, suggesting a plan for carrying on the business, with reasons for its adoption, December 1831, *App. p.* 63——Computed saving to the public by the new process of refining, *App. p.* 61—— Estimated amount of silver contained in the gold bullion, of which no account was taken in the bullion market; of gold contained in silver bullion and old British silver coin; with amount that would have been realized by the new refining process, *App. p.* 65—— Lord Auckland's report to the Treasury, recommending the establishment of the new system, upon the basis suggested by the refiner, *App. p.* 66——Correspondence between Lord Auckland and the Governor of the Bank, *App. p.* 67——Lord Auckland's letter to the Governor of the Bank explanatory of his new agreement with Mr. Mathison, *App. p.* 68.

Lettre du C^te^ De Sussy, President de la Commission des Monnaies, à M. le Commissaire du Roi, sur les frais d'affinage, Juin 1830, *App. p.* 183——Ordonnance du Roi, Octobre 1828, *App. p.* 183——Tarif des frais d'affinage qui seront perçus aux changes des monnaies, *App. p.* 184——Table des frais d'affinage, a percevoir, au change des monnaies, en exécution de l'ordonnance du Roi, Octobre 1828, *App. p.* 185.

See also *Dollars. Exchanges. Kent Road. Rupees. Sisee Silver.*

Refining Department. The melter and refiner provides the materials, *Mathison* 1660, 1661 ——The machinery and utensils belong to the Government, but he is bound to keep them in repair, *Mathison* 1662–1665——The manner in which the public gained 89 *l.* in 1831, by extracting the gold from old sixpences, *Mathison* 1666–1680——Evidence respecting the refining of brittle gold bars, and the profit accruing to the public, *Mathison* 1681–1693——Charges for refining sixpences and dollars, *Mathison* 1694–1697 ——Charges for refining for the Government and for the Bank, *Mathison* 1722–1738 ——The refining apparatus was purchased of witness by the Government, *Mathison* 1739–1743——The process of separating the precious metals described, *Mathison* 1744—— Comparative charges of refining in England and France, *Mathison* 1752–1771. 1783–1791 ——Estimate of the French government of the expense of a refining establishment,

Report, 1837—*continued.*

Refining Department—continued.

Mathison 1772–1774——Probability of an increase in the business of refining, *Mathison* 1775–1781.

Estimate of the expense of erecting a refining department in the Mint, as made to Lord Clancarty in 1813; proposal of Mr. W. Pole for erecting it; charges for refining, &c., *App. p.* 5——Estimated reduction of expense by the arrangement, *App. p.* 9——The charges of the melter for refining to be always at least one-sixth part below the then trade price charged by refiners, *App. p.* 15——Articles of agreement in 1833 between Mr. Mathison and Lord Auckland, the Master of the Mint, respecting the machinery constructed by him for refining, and for the regulation of the prices of refining waste, materials, repairs, &c., *App. p.* 25——Mr. Mathison permitted to refine for the Bank or private individuals on his own account, and to give receipts for the bullion, *App. p.* 26——Form of the receipt to be given by him, *App. p.* 27——Report of Mr. Mathison to the Master of the Mint on the state of the melting and refining departments, *App. p.* 55——Amount of refiner's bill during the 12 years from 1770 to 1782 (Messrs. Garbett's Report,) *App. p.* 218.

See also *Mathison*, Mr. *Melter and Refiner. Rosemary-lane. Sweep.*

Remedy. The remedy of the French Mint is more extended both in weight and fineness, in gold as well as silver, than our own; the remedy in each country specified, *Atkinson* 1895, 1896——The French Mint have invariably worked to the worse side of the standard, though within the remedy; this statement confirmed by Monsieur Gingembre, of the Mint of Paris, *Atkinson* 1897, 1898——No practical inconvenience arises from working on the worse side of the remedy, except the necessity of a recoinage in case the coin should be reduced below the standard weight by use, *Atkinson* 1899–1901——The moneyers have no interest in departing from the standard, but the French contractors derive advantage by keeping the coin to the worse side of the remedy, *Atkinson* 1910–1913.

The remedy in weight and fineness, approved by Mr. Alchorne and Mr. Bingley, adopted by Lord Bathurst and Mr. W. Pole, *App. p.* 7——Defined as to weight and fineness in the indenture, *App. p.* 14——Great difficulty and expense were occasioned to the moneyers by the reduction of the remedy in 1815, (Moneyers' Report,) *App. p.* 54——Impropriety of allowing great latitude in the remedy; variations, as recorded by the Goldsmiths' Company; regulations suggested, (Messrs. Garbett's Report,) *App. p.* 220.

United States.—Deviations from the standard weight permitted in the coins of the United States, as prescribed by Act of Congress, *App. p.* 211.——*See* also *Standard.*

Remembrancer. See *King's Remembrancer.*

Repairs. The Board of Works repair the exterior of the Mint; other repairs are paid for by the Master out of funds in his hands; the whole should be done by the Board of Works, (Deputy Master's Report,) *App. p.* 29.——*See* also *Machinery.*

Residence. No persons to reside within the Mint except such officers as are specially enjoined to live there, (Indenture,) *App. p.* 17——Statement that out of 17 official residences, only five were occupied either by principal or deputy, and the rest were let at a rent to others, (Messrs. Garbett's Report,) *App. p.* 220.

Return of the Assay. See *Assays. Bank of England. French Mint.*

Returns. List of returns from the Mint-office ordered by the Committee, *App. p.* 246.

Robberies. Have taken place by the workmen, but the moneyers and melter have suffered the loss, *Barton* 568–570——The extra labourers are employed to handle bags of coin, which are tied up; but it is impossible to prevent pilfering altogether, *Barton* 571–574——Case of Mr. Fitzpatrick, who purloined silver from the bags in the stronghold; the loss was sustained by the higher officers, *Morrison* 1649–1653——The officers of the Mint are responsible for all losses, except in cases of burglary; in 1832, a watchman stole some precipitated silver; the melter sustained the loss, *Morrison* 1654–1659——The moneyers are subject to daily peculations, and sometimes to robberies of considerable extent; robberies of Turnbull in 1798 and of Keith in 1830, *Atkinson* 1926–1934.

Roettier. A native of Antwerp, appointed by Charles II. as one of the Mint engravers, with a salary of 700*l.* a-year, *App. p.* 7.

Rolling Mill. The bars of metal are rolled to the thickness of the coin required, after they have been rendered ductile by annealing, *Atkinson* 1907——The bars are here annealed, and passed through a succession of rollers, until they are reduced to nearly the thickness required for the coin, *p.* 150.

Rosemary Lane. In consequence of a memorial from the inhabitants, complaining of the nuisance of the Mint refinery, an alteration suggested by M. D'Arcet was adopted, *App. p.* 66.

Rothschild,

Report, 1837—*continued.*

Rothschild, Messrs. In 1828 brought a large quantity of gold from Paris, which they coined at the Mint; they brought the sovereigns to the Bank, who bought them as bullion at the standard price, *Haggard* 2485——Supplied the Mint with silver for the coinage of 1,000,000 crown-pieces in 1828, receiving Treasury bills drawn at eight months, bearing interest of four per cent. *App. p.* 89——Statement of the proceeds from the coinage of a portion of the silver purchased of Messrs. Rothschild, showing the profit on the portion coined, after paying the interest on the whole purchase, *App. p.* 90.——*See* also *Bank of England.*

Rupees. Contain much gold, which may be extracted whenever they may be remitted in large quantities, *Mathison* 1779.

Russia. See *Bank of England. Gold.*

S.

Salaries. Scale of salary to each officer in the Mint, as proposed by Mr. W. Pole to the Committee of the Privy Council on coin in 1815, *App. p.* 9——To be paid by the Master without any deduction, (Indenture,) *App. p.* 17——Schedule thereof attached to the indenture, *App. p.* 19.

Comparison of the scale of salaries of the clerks of the Mint with those of the Ordnance department and paymaster of civil services, *App. p.* 69——Comparative statement of the salaries and allowances in the establishments of the French and English Mints, *App. p.* 87——The salaries of officers of the Mint of the United States of America, as settled by Act of Congress, *App. p.* 210.

Sales of Coin. Account of, entered in the Service Account Book, *p.* 148.

Sargent, Mr. See *Commissariat Department.*

Say, Professeur. A member of the commission appointed by the French Minister of Finance for inquiring into the mode of assaying, *App. p.* 115.

Schlabsy, M. (of Hambourg.) Result of his experimental assays of silver, *App. p.* 116.

School of Art. Should be established at the Mint to ensure a succession of competent officers in the engraving department, (Mr. Wyon's Report,) *App. p.* 52.

Scissel. The residue of the cuttings is packed into journey-weights and deposited in a stronghold by one of the moneyers, until sent to the melter to be again melted into bars, *Atkinson* 1907——When a person imports bullion into the Mint he can very soon have the scissel back, and sell it in the market instead of coining it, *Sharp* 2102–2105——Should be melted without any addition of melter's ends, or other material, except as publicly ordered by the King's assayer, *Bingley* 2589——If the stopped scissel-pots were corrected at once, instead of being returned to the Master's assay-office, three or four days would be gained, *Bingley* 2631, 2632——The metal in the scissel-pots is very seldom coarser than the standard, *Morrison* 1609.
See also *Alloy. Journey-weight. Weigher and Teller.*

Service Account Book. Shows the purchase of bullion, dollars, &c. and sales of coin account, kept by Mr. Capes, *p.* 148.

Seabrooke, Thomas. Extract from the books of the Company of Moneyers, in 1704, concerning his allowance for taking care of the machinery, *Atkinson* 1991.

Seignorage. The only seignorage on gold coins in Holland is on ducats; the government have relinquished the seignorage on silver coin, in order to encourage the coinage of silver, *App. p.* 214.——*See* also *Coinage.*

Selwyn, George Augustus. Average of his clear yearly profits, as surveyor of meltings and clerk of the irons, *App. p.* 218.

Sharp, Messrs. *James* and *G. A., G. F. Mathison, J. W. Morrison* and *J. Atkinson.* (Analysis of their Evidence.)—[*James Sharp.*] A bullion broker and jeweller, 2057–2059——Delay which took place in the coinage of bullion sent to the Mint by witness's firm, and the consequent loss of interest, 2060–2072——This bullion might have been coined in less time, 2073–2075——The coinage could be completed in 10 days with proper security to the importers and the public, 2076–2080——If witness's money had been returned in 10 days, instead of sustaining a loss, he could have made a profit, 2081, 2082——The bullion was imported in three separate deliveries, 2083.——[*G. A. Sharp.*] The number of ingots in each delivery, 2084.——[*J. Sharp.*] The deliveries being separate caused no delay, 2085–2093——There would have been less delay if a sufficient quantity of bullion had been imported to set the machinery at work, as our Mint is adapted to large coinages, 2094, 2095.
Without reducing the scale of the machinery greater expedition might have been attained by due diligence in different departments of the Mint, 2096–2101——£. 10,000

Report, 1837—*continued.*

Sharp, Messrs. *J.* and *G. A.*, &c. (Analysis of their Evidence)—*continued.*

are required to set the machinery in motion; the scissel may soon be had back and sold in the market, instead of recoining it, 2102–2105——It was formerly the practice to give the importer a part of the value of the bullion immediately, 2106, 2107——This was an accommodation to the trade and an encouragement for coining, 2108–2112——Examination as to the inducement this would offer to the exportation of coin instead of ingots, 2113–2122——The relative convenience and utility of coin and bullion, 2123–2136——Price per ounce, of gold, for the last 10 years; difference of price in gold bought by the Bank and by individuals, 2137–2146.——[*G. A. Sharp.*] The relative market prices of bullion and coin fluctuate according to the demand for each, 2147, 2148.——[*J. Sharp.*] If facilities were afforded for small coinages, less bullion would be sold to the Bank, 2149–2152——The present restrictions impede the increase of gold coin, 2153, 2154——Commercial transactions in bullion would be facilitated by a speedy exchange of small quantities of bullion for coin, 2155–2159——At present there may be a reduction in the actual value of gold by reason of a small demand; this could not arise if small quantities could be readily coined at the Mint, 2160–2164——Ingots are never objected to on account of any difference of quality in different parts, 2165——Every change that has been made in the Mint system has been for the benefit of the importer, 2166.

The Mint only receives gold that has been melted by Brown & Brind, or other melters whose skill is known, 2167——The Bank have purchased gold melted in France and Russia, 2168–2171——They do not now receive gold unless it has been melted by Brown & Brind, 2172.——[*G. A. Sharp.*] If a bar comes from abroad and is melted carelessly, one end may be better than another, 2173——The Bank took gold from a company which had not been melted by Brown & Brind, 2175——They refused some offered by witness, and it was sent to Brown & Brind to be melted, 2176–2178.——[Mr. *Mathison.*] It has long been the practice of the Bank to require gold to be melted by a particular house, 2179–2181——An exception has been made by them in favour of witness since 1829, who refines for them; the only object of a monopoly is to avoid disputes about the assays at the Mint, 2182–2186——During the mastership of Lord Auckland the Bank imported much brittle gold that had been melted abroad, 2187–2190.

No objection would be made to receive gold at the Mint, which had been melted by a respectable melter, but witness would try them, 2191–2193——It takes witness as long to melt 10,000*l.* worth of gold as 100,000*l.*, 2194——Bullion is generally melted the day after it is received, but this must depend upon the assayer, 2195, 2196.——[Mr. *Atkinson.*] No delay whatever takes place with the moneyers; the bars are put into work immediately they are received from the melter, 2197——If gold were received at ten o'clock 50,000 sovereigns could be delivered on the following morning, 2198.——Mr. *Morrison.*] When the coin is ready it must wait for the trial of the pyx, which is held on Tuesdays, 2199–2201——The assayer may be engaged in other duties, 2202, 2203——The assayer cannot always assay all that the melter has melted, 2204–2206.——[Mr. *Mathison.*] Forty assays would be required for 100,000*l.* which the melter can melt in one day, 2207——Number of copples in each furnace, 2208–2210——The assayer would do the public assays before the private assays, if required, 2211–2217.

The average time was taken in Mr. Sharp's importation, 2218——Examination as to the shortest time in which gold has ever been coined at the Mint, 2219–2224.——[Mr. *J. Sharp.*] When witness took the gold to the Mint he stated that it was an experiment, and that the loss of interest occasioned by delay would fall on him, 2225.——[Mr. *Morrison.*] He also said that he did not wish the regulations of the Mint to be altered for him, 2226, 2227.——[Mr. *J. Sharp.*] There is no advantage to the importer in having the gold assayed by the King's assayer, 2228, 2230——The charges of the King's assayer for private assays are not complained of, although greater than those of other assayers, 2231–2236——Gold that has been assayed by him is preferred in the market, but not in proportion to the charge, 2237, 2238——The Bank will not purchase any gold that has not been assayed by him, 2239, 2240——The gold undergoes two assays at the Mint before it is delivered to the melter, 2241, 2242——The fees paid by witness were not voluntary, 2243, 2244.——[Mr. *Morrison.*] These fees have been established from time immemorial, and are alluded to in the Order of Council in 1815, 2245–2249——Explanation of circumstances connected with the coinage of the gold belonging to Messrs. Sharp, 2250, 2251.

Sharp, Messrs. Amount paid them as brokerage in 1835 by the deputy-master of the Mint for the purchase of bullion, with the rate of brokerage, *App. p.* 72——Account showing the progress of coinage of three parcels of gold bullion imported by them, to determine by experiment the loss occasioned by the delay in coining under the regulations of the Mint, *App. p.* 75——Letter and account from Messrs. Sharpe, respecting the loss sustained by them in consequence of the delay in coining their bullion, *App. p.* 76.——*See* also *Coinage.*

Sheffield Assay Office. Value of gold and silver trial plates directed to be delivered thereto in 1830, *App. p.* 245.

Sheffield

487

Report, 1837—*continued.*

Sheffield and Birmingham Diets. Regulations under which the gold and silver plate manufactured at Sheffield and Birmingham are assayed at the Mint, *Morrison*, 17–26 ——This plate exceeds the standard in fineness, *Morrison* 27–31.

Shillings. Account of the weight, number and value thereof, coined in each year, from 1st January 1816 to 31st December 1836, *App. p.* 225.

Silver. The price of silver would be more steady if made a legal tender, and capable of being coined without seignorage, *Haggard* 2480–2484——Variations in the value of silver coin since the reign of Elizabeth, *Haggard* 2487–2492——Greatest variations in the price of silver, *Haggard* 2493–2495——The proportion between the value of gold and silver should be as 15 to 1, *Haggard* 2496–2498——Nearly the whole of the silver that has come to this country for some years has been sent to Paris; the French Bank discount small bills in silver coin, *Haggard* 2513–2515——A rise of one halfpenny in the price of silver would change its current from France, *Haggard* 2516–2519——No silver has been received from India or China since the abolition of the East India Company's charter, *Haggard* 2520——It is chiefly brought from Peru and Mexico, *Haggard* 2521.——*See* also *Alloy. Journey-weight. Purchases. Sisee Silver.*

Silver Coinage. Number of pieces of each denomination of silver coin to be contained in a pound weight troy of silver, according to the Mint Indenture, *App. p.* 13——Standard value and fineness of every pound weight troy of silver coin, *App. p.* 13——Weight coined in 1835; number and denomination of pieces; rate of charge and total amount charged, *App. p.* 71——Total value of the silver coinage from 1st January 1816 to 31st December 1836, specifying the weight, number of pieces and value of each denomination of money coined yearly, *App. p.* 225.

Tarif du prix auquel doivent être payés au change, dans les hotels des monnaies, les especès et ouvrages d'argent ci-après désignés, *App. p.* 137–176——Tarif conformément a l'ordonnance, de 25 Fevrier 1835, *App. p.* 198.——*See* also *Coinage.*

Sisee Silver. From China, contains three or four per cent. of gold; it has not come to England lately, as the exchange has caused it to go to India, *Mathison* 1779, 1780.

Sixpences. Number to be contained in every pound weight troy of silver, (Indenture,) *App. p.* 13——Price to be allowed for the coinage of every pound thereof, *App. p.* 19 ——Account of the weight, number and value thereof coined in each year, from 1st January 1816 to 31st December 1836, *App. p.* 225.

Sizing Room. Each blank is here separately weighed, and sounded on a circular piece of iron, in order that no defective coin may get into circulation, *Atkinson* 1907, *Ev. p.* 150.

Slide Valve. See *Machinery.*

Smirke, Mr. See *Buildings.*

Smith to the Engraver, and Die Forger and Smith to the Mint. Average of the clear yearly profits of the office while held by Reuben Fletcher, *App. p.* 219.

Solicitor to the Mint. Attends the Board every Wednesday, and lays before them cases for prosecution, with the evidence, *Morrison* 46——His appointment recommended to be transferred from the Warden to the Treasury; other recommendations respecting his duties, &c. by Mr. Wellesley Pole, *App. p.* 2——Objection of the Audit-office to the mode in which the solicitor to the Mint is paid the expenses of prosecution, (Deputy Master's Report,) *App. p.* 29——Average of the clear yearly profits of the office when held by Mr. Vernon, (Messrs. Garbett's Report,) *App. p.* 219.

See also *Machinery. Prosecutions.*

South American Coins. An examination made of 300 of them by Mr. Bingley, and tables of their weight and fineness constructed by him for arranging the military chests abroad, (King's Assay Master's Report,) *App. p.* 47.

Sovereigns. There are a great number of sovereigns containing silver in circulation; when they get abroad they are refined, *Mathison* 1704–1715——Number to be contained in 20 pounds weight troy, according to the Mint indenture, *App. p.* 13——Account of the weight, number and value thereof, coined in each year from 1st January 1816 to 31st December 1836, *App. p.* 224.

See also *Alloy. Refining.*

Spanish Dollars. See *Dollars.*

Stamper of Money Weights. His office stated to be a sinecure, and the discontinuance of the salary recommended by Mr. W. Pole, *App. p.* 3——Average of the clear yearly profits of the office while held by John Whitehurst, *App. p.* 219.

Standard. The standard weight and fineness of gold and silver monies, as read from the Mint Indenture by the Lord Chancellor on the trial of the pyx, *Morrison* 2028—— Standard value and fineness of every pound weight troy of gold and silver coin, accord-

Standard—continued.

ing to the Mint indenture, *App. p.* 13——Variations in the fineness of our gold and silver coins since the conquest, (Mr. Bingley's Remarks on the Trial Plates,) *App. p.* 78——Statement that no error in fineness will be found in any one guinea of the reign of George III. (Messrs. Garbett's Report,) *App. p.* 216——Table showing the degrees which our gold coins have been worse than standard, in each reign from Charles II. to George III. (Messrs. Garbett's Report,) *App. p.* 219.

United States.—The American standard, as proposed to be settled by a new Act of Congress, (Mr. Patterson's Letter,) *App. p.* 208–210——The American standard is 900 parts of pure metal and 100 of alloy; the alloy of gold to be composed of copper and silver, provided the latter be not more than half the alloy, *App. p.* 210.

See also *Pyx. Remedy. Trial Plates.*

Stationery. Sums charged for stationery for officers who did not attend the Mint, or whose deputies did not require it for the public service, (Messrs. Garbett's Report,) *App. p.* 218.

Steam Engines. See *Machinery.*

Steam Power. Working by hand is superior in execution to the steam power, but less expeditious, *Brande* 1150–1163.

Stopped Pots. Are those in which the combination of metals is found to be inaccurate by the King's assayer; their contents are re melted, *Mathison* 1257–1261——Accounts of gold and silver pots stopped, and the number melted, from 1828 to 1836, *Mathison* 1509——All ingot and scissel pots stopped by the King's assayer for bad melting or mixing should be remelted immediately at the melter's expense; if stopped for any other cause, should be returned to the Master's assayer, *Bingley* 2589.

Board minute, 1830, for the regulation of the stopped pots, *App. p.* 36——The plan proposed by Mr. Barton is very circuitous, and would occasion much delay; superiority of the present mode of correcting them, (Melter's Report,) *App. p.* 55.

See also *Alloy.*

Stronghold Account. Shows the stock taken each month, and balances remaining, &c.; is kept by Mr. Hill, and examined by Messrs. Morrison, Barton and Croasdale, *App. p.* 147.

Subsidiary Accounts of Profits which are not contained in the Master's Cash Account. Proposed to be prepared at the end of each quarter, (Deputy Master's Report,) *App. p.* 30.

Sulphur. Is occasionally found in combination with the metal in ingots, which are therefore unfit for coinage, (King's Assayer's Report,) *App. p.* 43.

Sulphuric Acid. See *Parting Assays. Refining.*

Superannuations. The grant is included in the general vote by Parliament for superannuation and retired allowances, and is issued annually to the Master of the Mint by the Paymaster of Civil Services, *App. p.* 28.

Superintendent of Machinery. The office is attached to the clerk of the irons, *Morrison* 171——Must see that all the machinery is in working order, and that the engineers and artificers do their duty, *Brande* 885–888——His duties, as defined in the Mint Indenture, *App. p.* 16. 18——His report to the Master of the Mint, containing a statement of the duties and business of his office, *App. p.* 49.

See also *Board. Clerk of the Irons. Machinery. Operative Department.*

Surplus Rates. Statement of the manner in which the surplus rates on coinage, after paying the moneyers, melter, Master's fees and officers' allowances on private coinage, have been appropriated from 1816 to 1837, *App. p.* 232.

Surveyor. Average of the clear yearly profits of the office while held by Mr. Vardy, *App. p.* 219.

Surveyor of Meltings. His duties described; he checks the melting of the metals in each pot as set down in the pot-book, &c., *Morrison* 114——His check does not occasion the slightest inconvenience, *Mathison* 1287——He is present during the whole process of melting, *Mathison* 1299–1303——His attendance is important, *Mathison* 1356——Salary, fees and emoluments of the office, *Buckham* 1025–1032——His duty is to act throughout as a check upon the melting department, on the part of the Mint, *Buckham* 1033–1036——He has no official knowledge of the difference between the Master's assayer's report and the actual value of the ingot, *Buckham* 1040–1045——He has no control over the fineness of the metal; the pot-book is conclusive, *Buckham* 1059–1062——His authority, and that of the melter, should be better defined, *Buckham* 1068–1096.

His duties defined in the Mint Indenture, *App. p.* 15, 16——An increase of salary recommended by Mr. W. Pole, *App. p.* 3——Average of the clear yearly profits of the offices

Report, 1837—*continued.*

Surveyor of Meltings—continued.

offices of surveyor of meltings and clerk of the irons, while held by Mr. Selwyn, *App. p.* 218——And of his deputy, John Jones, *App. p.* 219——Amount of fees received by him on account of private coinages in each year from 1816 to 1836, *App. p.* 94.

See also *Alloy. Check Department. Melting. Pot Books.*

Surveyor of Money Presses and Coins. His salary and emoluments, *Busson* 1101–1106——His duties; during the coinage he attends to see that the money is perfect, *Busson* 1107–1114——He has the custody of the dies during the time they are in use, and accounts for them to the clerk of the irons, *Busson* 1115–1131.

An increase of salary recommended by Mr. W. Pole, *App. p.* 3——Amount of fees received by him on account of private coinages in each year from 1816 to 1836, *App. p.* 94——Average of the clear yearly profits of the office when held by John Chambers, (Messrs. Garbett's Report,) *App. p.* 219.——*See* also *Check Department.*

Sussy, C^te^ *De.* His letter, inclosing the report of M. D'Arcet, the director of assays, on certain pieces of gold and silver transmitted by Mr. Bingley, *App. p.* 86.

Sweep. An account of all sweep sold from the melting-house and refinery, from 1828 to 1836, *App. p.* 95.

T.

Tale Books. Show the weight of silver and copper monies received from the moneyers, &c.; are kept by Mr. Hill, *App. p.* 147.

Tallow. See *Machinery.*

Tekell, Mr. Stated by Mr. Wellesley Pole to have made the office of comptroller a sinecure; recommendations respecting him and his office, *App. p.* 2.

Thenard, M. le Baron *De.* Member of the commission appointed by the French Minister of Finance to inquire into the mode of assaying, *App. p.* 115.

Thiers, Monsieur. Letter to Earl Granville, inclosing replies to the questions transmitted by Lord Palmerston respecting the French coinage, *App. p.* 96.

Threepences. Account of the weight, number and value of silver threepences coined in each year from 1st January 1816 to 31st December 1836, *App. p.* 226.

Tierney, Mr. See *Apprentices. Moneyers*, Provost and Company of.

Tillet, M., (of the Academy of Sciences.) A memoir published by him in 1760 shows that the defects in the usual mode of assaying were then known in France; documens officiels, *App. p.* 113——Extracts from this memoir, *App. p.* 117.

Treasurer of the Mint of the United States of America. His powers, duties and salary prescribed by an Act of Congress, *App.* p. 209.

Treasury. Communications with the Treasury are conducted on the part of the Mint by the Master and deputy-master, *Morrison* 77——When an Order in Council directs a tril of the pyx, they order the Mint officers to produce their pyx, and the King's remembrancer to swear a jury of goldsmiths, *Morrison* 2028.——*See* also *Crown Pieces.*

Trial Plate. The trial plate for determining the standard is made by the Goldsmith's Company, *Bingley* 668–672——The silver trial plate previous to the present was 1 ½ dwt. too fine, and all the coin and manufactured plate were influenced by it, *Bingley* 673–677——Since this was discovered, no trial plate is used until its accuracy is reported by the King's assayer, *Bingley* 678–683——By this system accuracy is secured, *Bingley* 700–702——Inaccuracies were discovered in some of the gold trial plates, *Bingley* 678–691——The difficulty of attaining an accurate standard arises from the proportions of mixed metals being varied by the operation of the fire, *Bingley* 692–699. 704——The average duration of trial plates has been 100 years; part of the plate itself is seldom taken for assays, *Bingley* 700–702.

All gold coins to be agreeable in process to the trial pieces made in the 4th year of James II. and silver coin agreeable to trial pieces made 1 Geo. II. (Indenture) *App. p.* 14——Places in which the indented trial pieces are to be preserved, *App.* p. 14——Remarks of Mr. Bingley on the state of the gold and silver trial plates, with reference to alterations in the fineness of the new trial plates, *App. p.* 78——His letter on the alteration in the silver trial plate, *App. p.* 85——Letter of Mr. Herries, January 1829, to the Commissioners of the Treasury, inclosing Papers (A.) and (B.), respecting the manufacture of new trial plates, *App. p.* 235——Account of the distribution of trial plates, or parts thereof, to the several assay-offices, showing the value of each, *App. p.* 245.

See also *Pyx.*

Twopences. Account of the weight, number and value of silver twopences coined in each year from 1st January 1816 to 31st December 1836, *App. p.* 226.

Report, 1837—*continued.*

U.

United States Mint. The provisions for preserving the standard and purity of the coin are contained in an Act of the Legislature, *Barton* 528–530——There is a melter and chief coiner, who have salaries and allowances for the waste on the manufacture, *Barton* 637, 638, *Mathison* 1231–1237——Letter of Mr. Patterson to Mr. Buchanan, *App. p.* 208——No part of the work of the Mint is executed by contract, nor are perquisites of any kind permitted, *App. p.* 208——A Bill, supplementary to the Act, intituled "An Act establishing a Mint, and regulating the Coins of the United States," *App. p.* 209.
See also *Georgia. New Orleans. North Carolina. Pyx. Salaries. Treasurer.*

Ural Mountains. See *Gold.*

Utrecht. The only Mint in the kingdom of Holland is situated there; its constitution, officers, &c., *App. p.* 213.——*See* also *Assayers. Dutch Mint. Pyx.*

V.

Vardy, Mr. Surveyor of the Mint in 1782; his statement and estimates of the expenses of repairing the Mint, (Messrs. Garbett's Report,) *App. p.* 217——Average of his clear yearly profits, *App. p.* 219.

Varielhes, M., (of Bordeaux.) Result of his experimental assays, *App. p.* 116.

Vauquelin, Monsieur. Member of the commission appointed by the French Minister of Finance to inquire into the mode of assaying, *App. p.* 115——Result of experimental assays made by him, *App. p.* 116.

Vernon, Mr. Average of his clear yearly profits as solicitor to the Mint, *App. p.* 219.

Vervaëz, Antonio Rafaël, (of Madrid). Result of his experimental assays of silver, *App. p.* 116.

Vivien, M., (of Strasbourg). Result of his experimental assays of silver, *App. p.* 116.

Voie humide. See *Assays.*

W.

Wages. Agreement between the Moneyers and Master, that the former shall pay the wages of artificers whilst the Mint is at work, and that the latter shall pay them at other times, *App. p.* 21——Obscurity of the moneyers' agreement as to their liability to pay the wages of artificers, (Comptroller's Report,) *App. p.* 34——Account of wages paid to artificers for keeping the machinery of the Mint in order in 1835; amount paid by the Government and by the moneyers, *App. p.* 72——Minute of the Board, 19th June 1833, for regulating the proportion to be paid by Government and by the moneyers, *App. p.* 73.
Rate of wages paid to the workmen in the Mint of the United States of America; Mr. Patterson's letter to Mr. Buchanan, *App. p.* 209.
See also *Artificers. Coinage. Machinery. Seabrooke, Thomas.*

Wallace, Mr. See *Apprentices.*

Warden of the Mint. His office stated to be a sinecure, and its abolition recommended by Mr. Wellesley Pole in 1815, *App. p.* 2——Duties imposed on the office by various acts; salaries of officers in his department, *App. p.* 2——The duties of the warden of the Dutch Mint, (M. Poëlmen's Memorandum,) *App. p.* 214——Average of the clear yearly profits of this officer, (Messrs. Garbett's Report,) *App. p.* 218.

Waste. See *Melting.*

Waste Book. See *Journal.*

Water Silver. When gold contains silver, nitric acid is applied, together with more silver, to bring the acid into action; the silver produced is called water-silver, *Morrison* 238–240——It is a perquisite of the King's assayer, *Morrison* 236, 237; *Bingley* 326——Evidence as to the cost of the silver provided by the public; the value of water-silver, and the propriety of continuing the perquisite, *Morrison* 241–258. 260——It is bought of Brown & Brind, and sold to them again when used, at a loss of 25 per cent., *Bingley* 424–430——Value of the perquisite; cost to the public, and authority on which it is granted, *Barton* 496–509. 810——Value recovered in 15 years; there is no objection to commute the perquisite into a compensation, *Bingley* 639–646——The allowance of water-silver to the master's assayer should be discontinued, with compensation, *Beckwith* 794–796.
Comptroller's report on the right of the King's assayer and master's assayer to the perquisite of water-silver used in assays, *App. p.* 33——Report of the King's assayer to the

Water Silver—continued.
the Master of the Mint, in reply to the recommendations of the comptroller, on the advantage arising to the assay-masters in the use of water-silver, *App. p.* 47——Return of the value of water-silver supplied to the King's assayer and master's assayer in each of the 15 years from 1821 to 1835 inclusive, *App. p.* 93.
See also *Blue Liquor. Private Assays.*

Weigher and Teller. His duties, salary and emoluments, *Field* 978–984——He is allowed the assistance of a labourer in weighing, *Field* 1019–1021——Is the check in all weighings between the importer of bullion and the Master, and between the moneyers and melters and other officers in the Mint, *Morrison* 111–113——The scissel brought from the moneyers' department is weighed by him in the presence of one of the chief officers, the melter and the moneyer, *Atkinson* 1907.
An increase of salary recommended by Mr. W. Pole, *App. p.* 3——Amount of fees received by him on account of private coinages in each year from 1816 to 1836 inclusive, *App. p.* 94——Average of the clear yearly profits of the office while held by Maurice Morgan, esq., (Messrs. Garbett's Report,) *App. p.* 218——And of his deputy, Asher Jones, *App. p.* 219.
See also *Check Department. Copper.*

Weight. Witness introduced a beam on a new principle which saves one-third of the time, and has gained in six years 1,000*l.* to the public, *Field* 985, 986——The Mint weigh more accurately than the Bank, and on the importation of bullion the latter receive credit for the weight at which they had purchased; any surplus is the profit of the public, *Field* 987–992, *Barton* 997, 998——Before the introduction of the improved beam, no notice was taken of this surplus, *Field* 1005–1007——The machinery in the Mint is so exact, that the file is very seldom used to secure accurate weight in the coins; in the French Mint a kind of plane is always used, *Atkinson* 1902–1906——If the purchase standard weight should exceed the Mint standard, short weight would not be taken, *Barton* 999–1002——Alterations suggested in the present mode of weighing gold and silver bullion on their introduction to the Mint, (Comptroller's Report,) *App. p.* 31.
See also *Copper. Standard.*

West India Silver Coinage. Weight coined in 1835; number and denomination of pieces; rate of charge and total amount charged, *App. p.* 71.

Whitehurst, John. Average of his clear annual profits as stamper of money weights, *App. p.* 219.

William the Third. Degrees which the gold coin was below standard during his reign, (Messrs. Garbett's Report,) *App. p.* 219.
See also *Provincial Mints.*

Works, Board of. See *Repairs.*

Wyon, Mr. Report to the Master of the Mint on alteration required in executing the service of the chief engraver's office, the accommodation for the work-rooms, &c., *App. p.* 51.
See also *Engravers.*

Y.

York Assay Office. Value of gold and silver trial plates directed to be delivered thereto in 1830, *App. p.* 245.

Fig. 2.

Fig. 1.

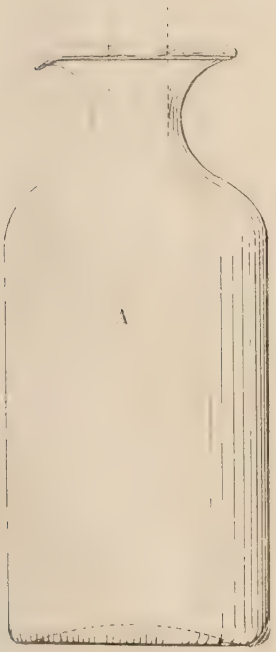


Fig. 3.

Fig. 4.

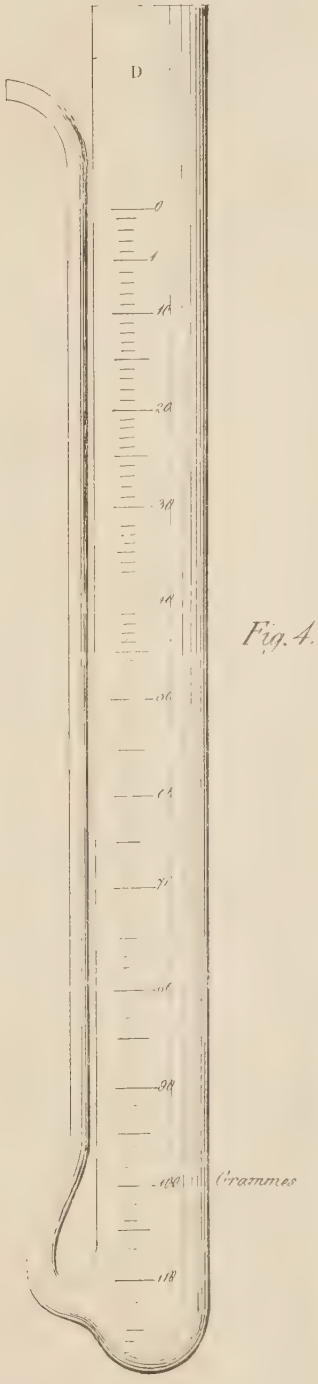


Fig 1.

Fig 2

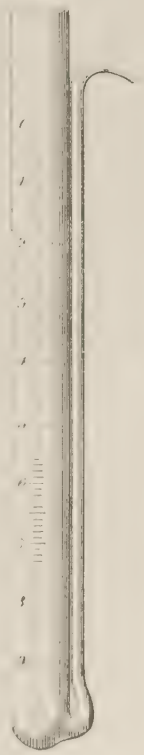


Fig 3

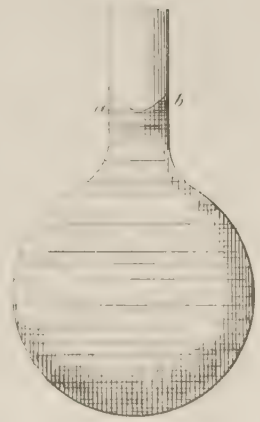


Fig 4

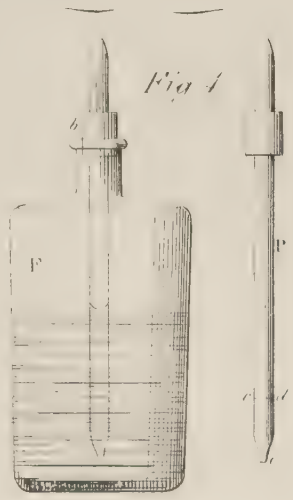


Fig 5.

Fig 7.

Fig 8

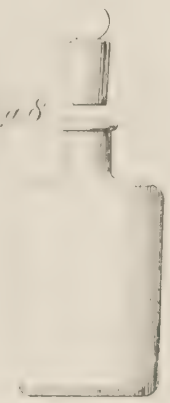
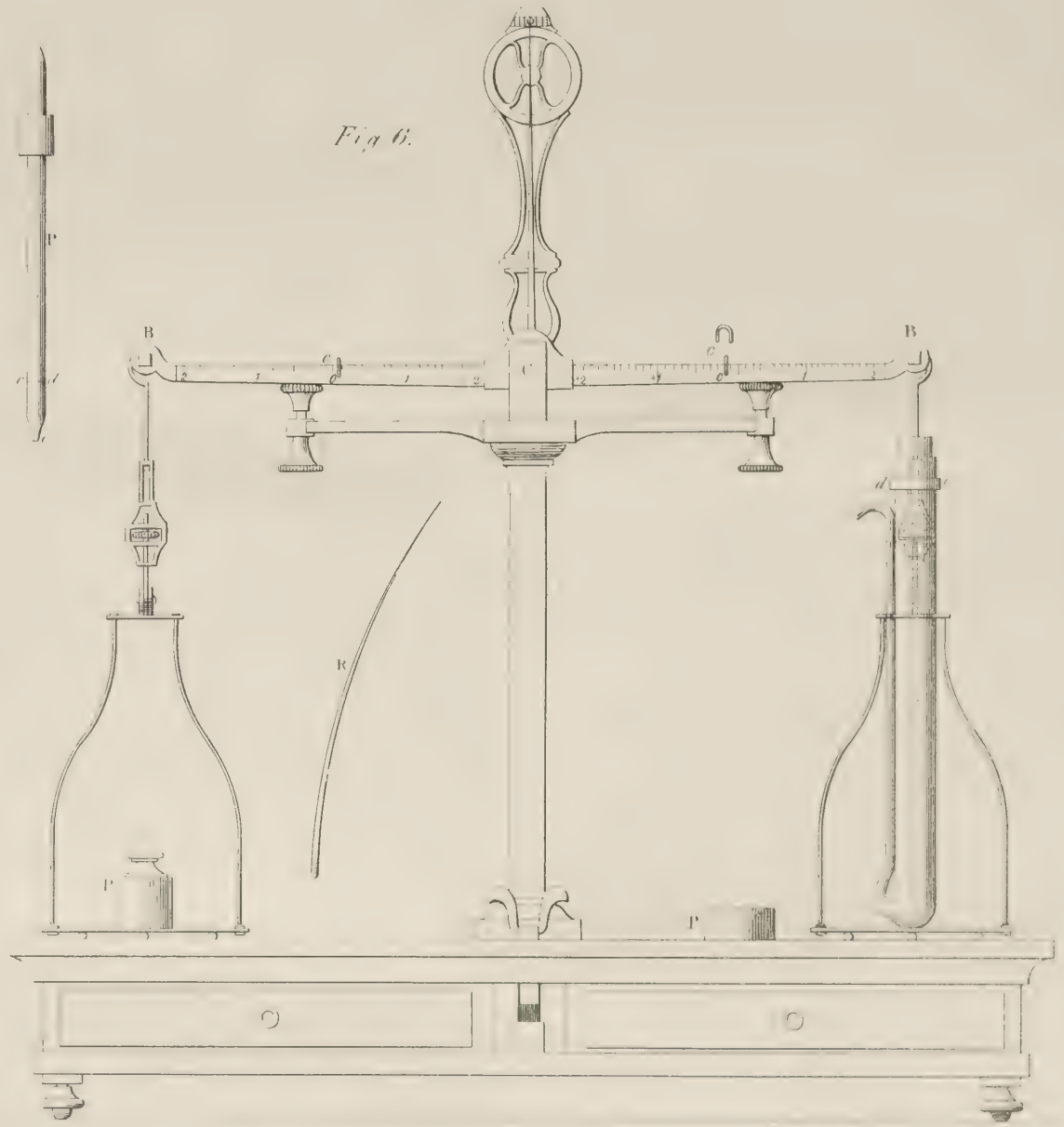


Fig 6.



J. Bayere, Lith.

Fig. 9.

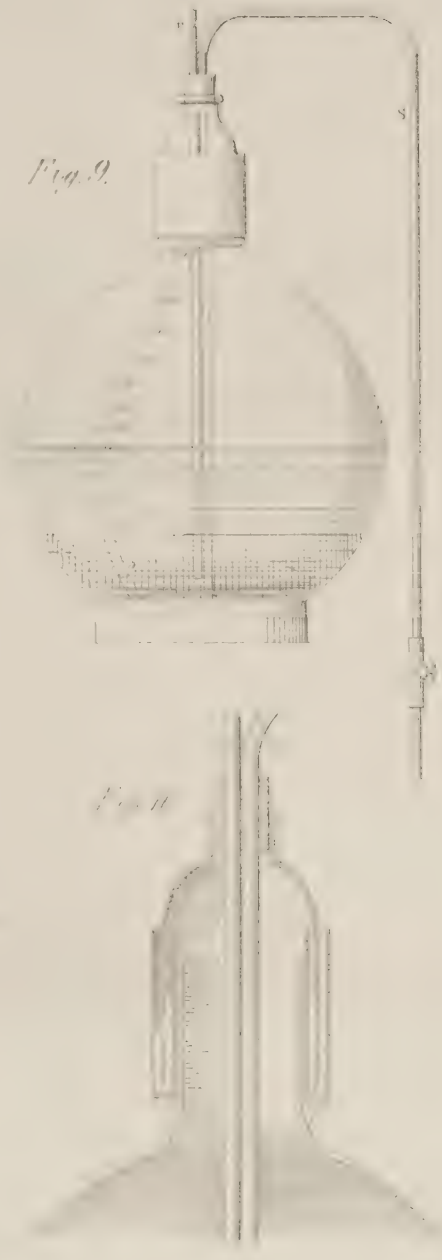


Fig. 12.

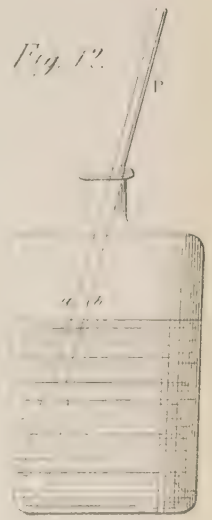


Fig. 13.

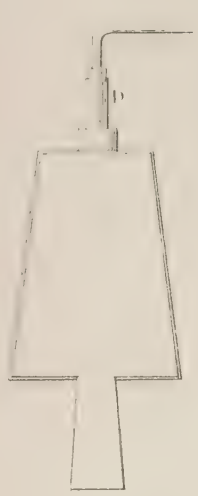


Fig. 14.

Fig. 15.

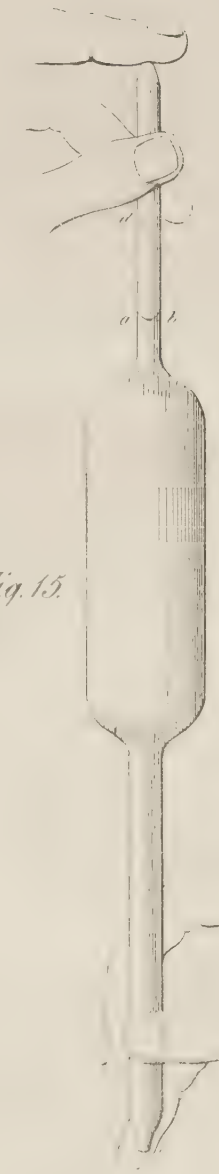


Fig. 16

Fig. 17.

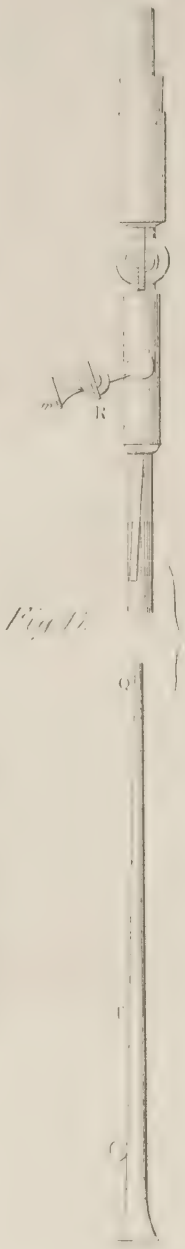


Fig. 11.

Fig. 10.

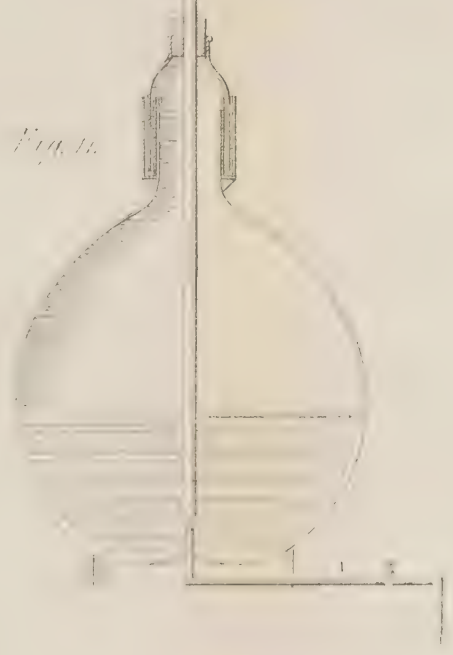


Fig. 18.

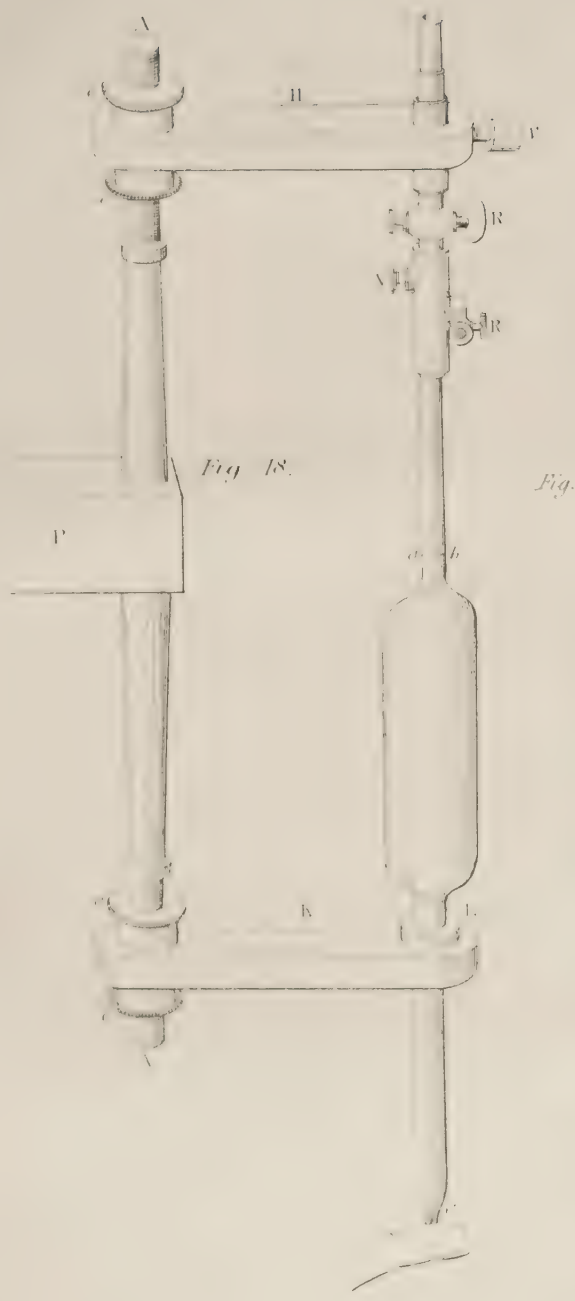
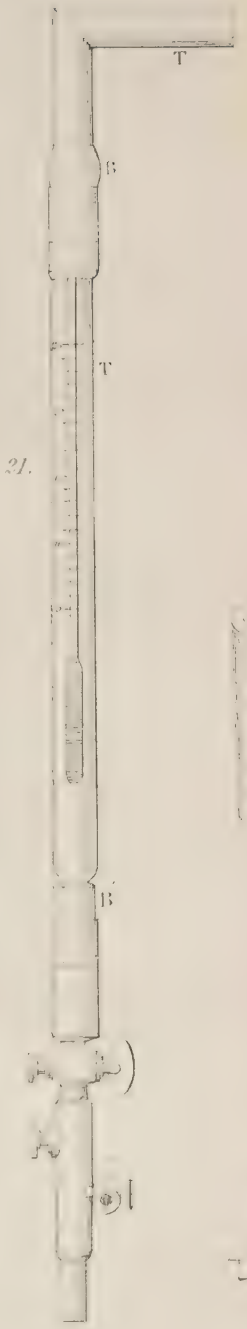


Fig. 21.



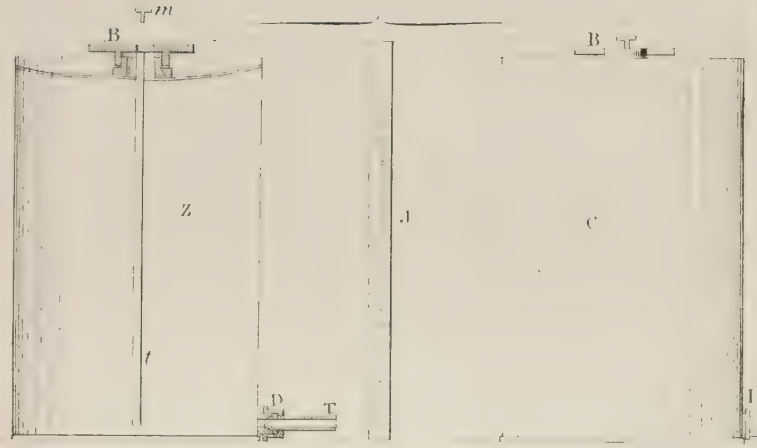


Fig. 20.

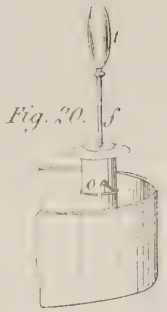


Fig. 23.

Fig. 24.

Fig. 25.

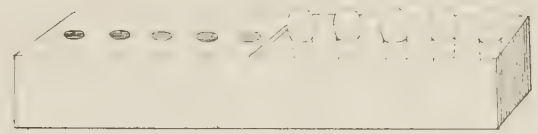


Fig. 19.

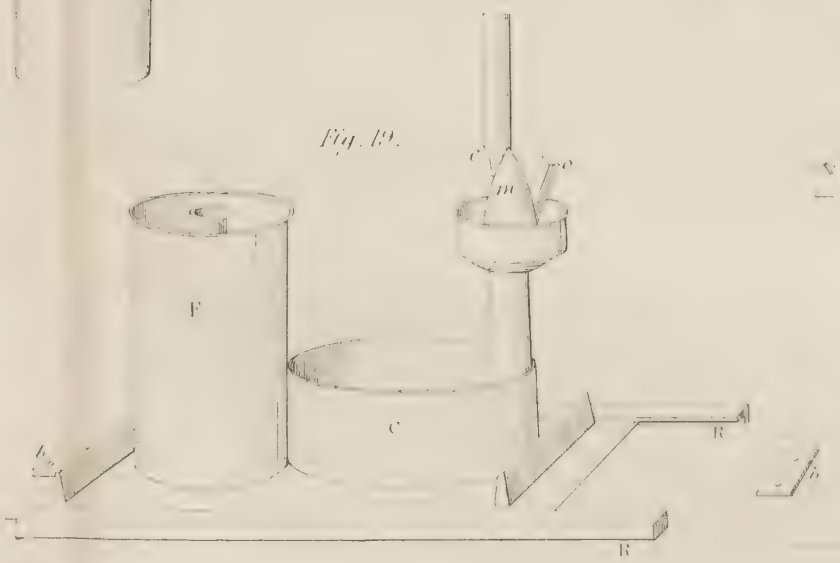


Fig. 22.

J. Passore, lith.

Fig. 26.

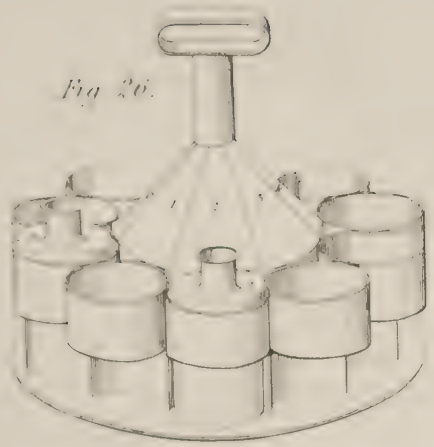


Fig. 33.

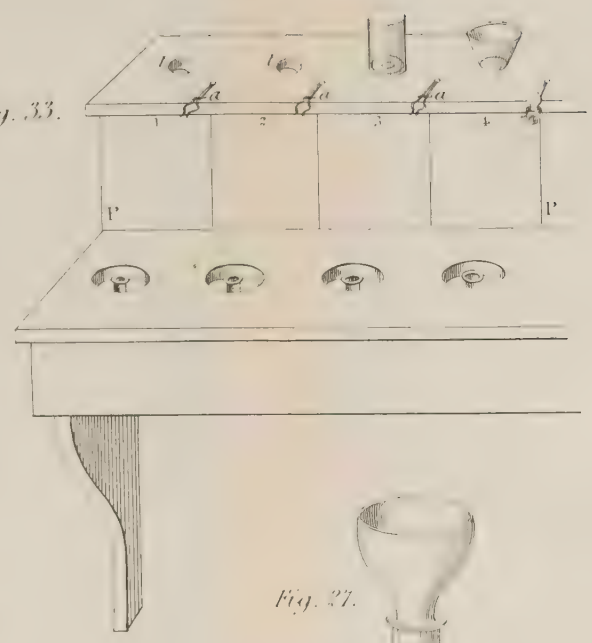
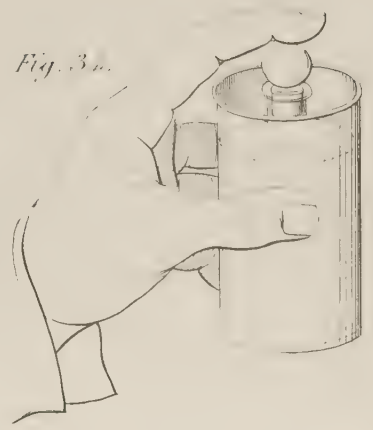


Fig. 34.



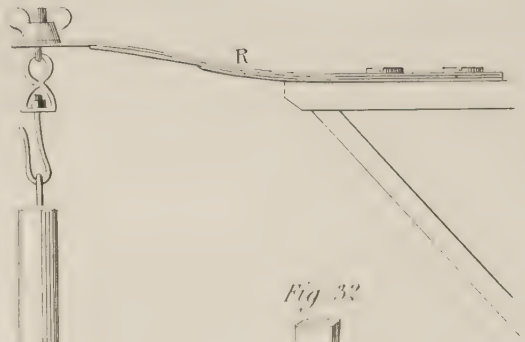


Fig. 32

Fig. 30.

Fig. 27.

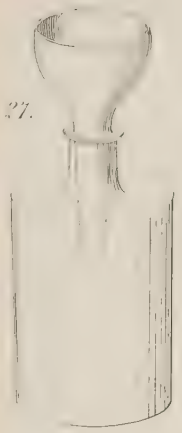


Fig. 35.

Fig. 29.

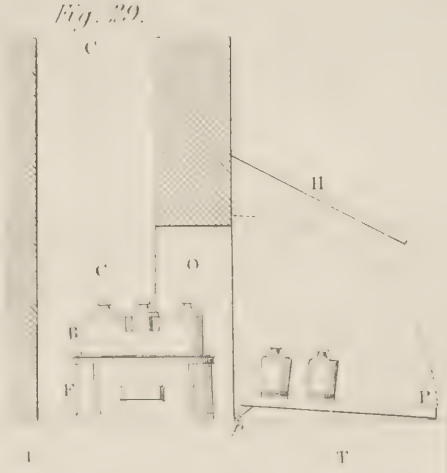


Fig. 31.

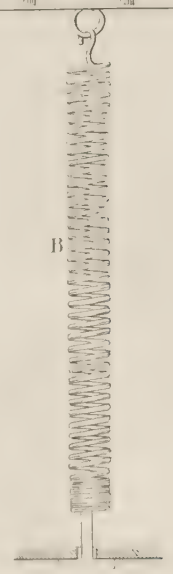
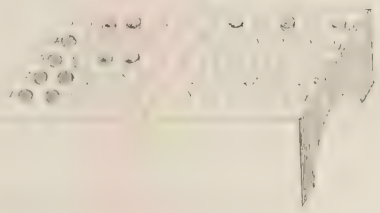


Fig. 38

Fig. 36.



J.Basire, lith.

Fig 39

V S

F

Fig 38

T

Fig 37

T

Fig 40

Fig 41

T

a b

P

Fig 42

20

10

Fig 43

T

D

R

V

M

F

J Basire lith

Fig 45.

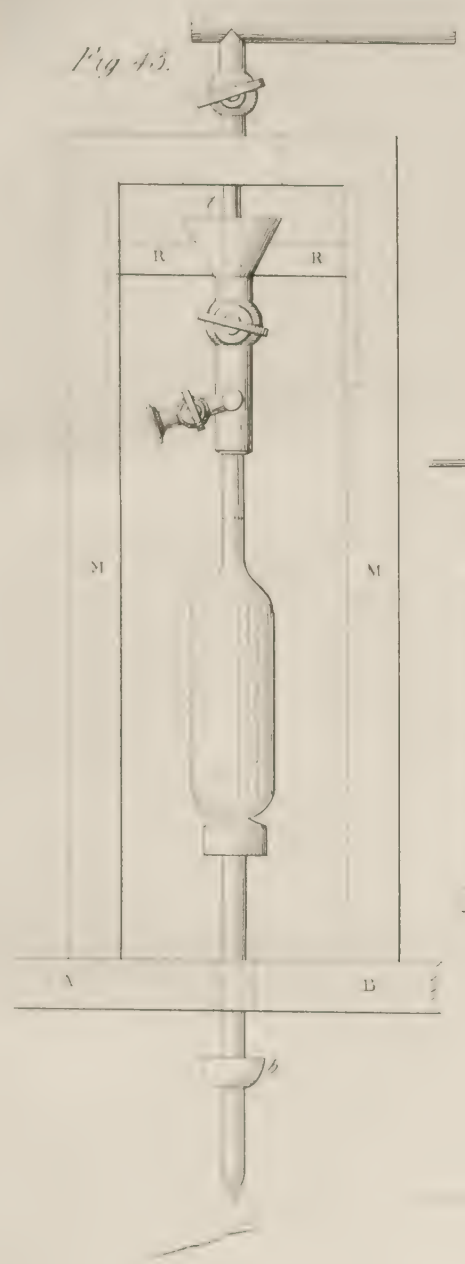


Fig 46.

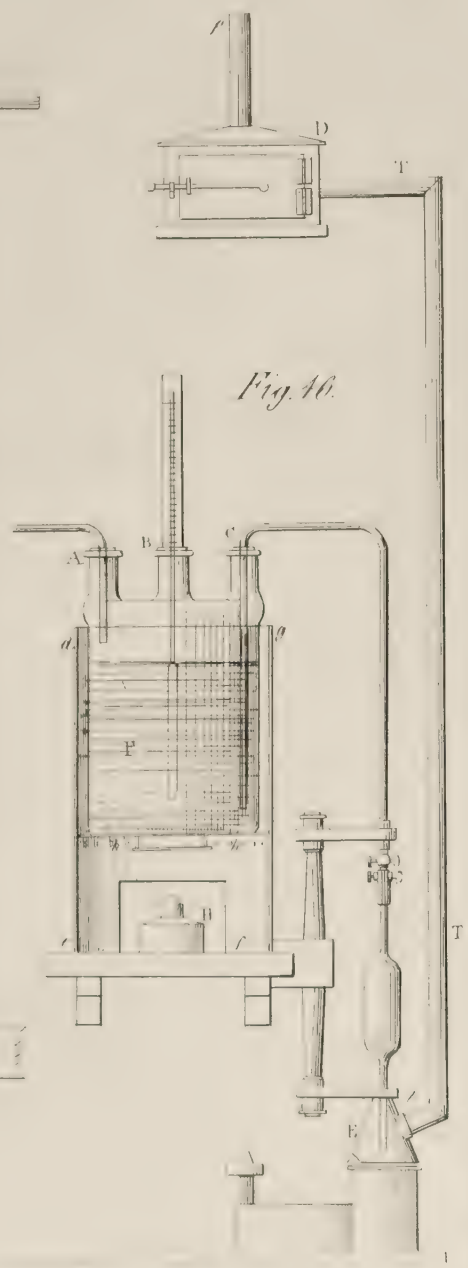


Fig 49.

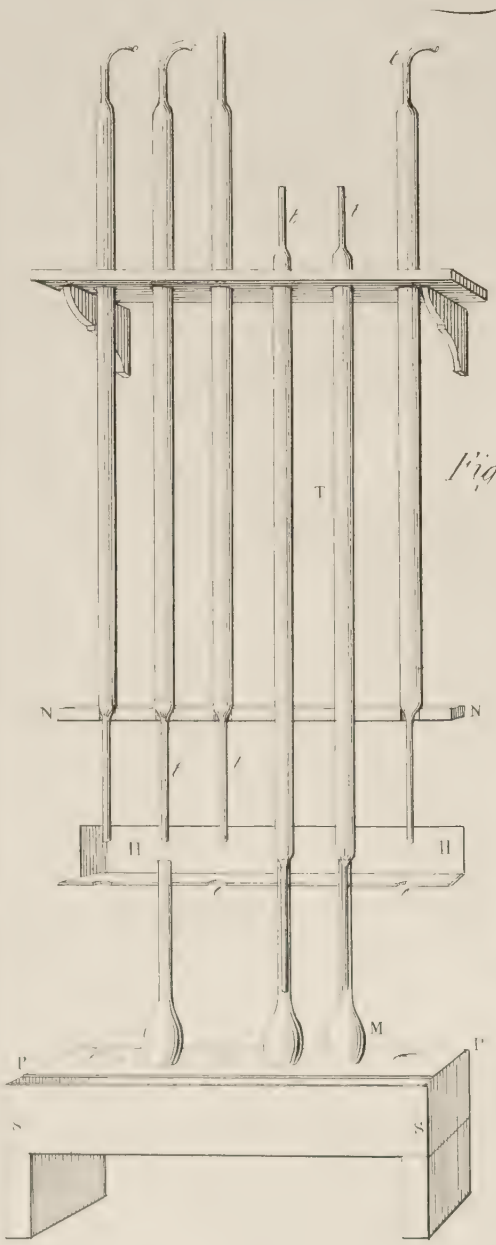


Fig 47.

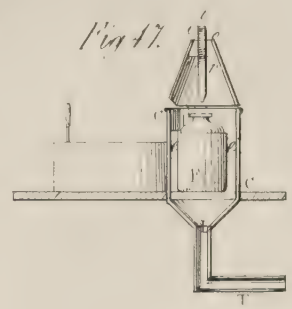
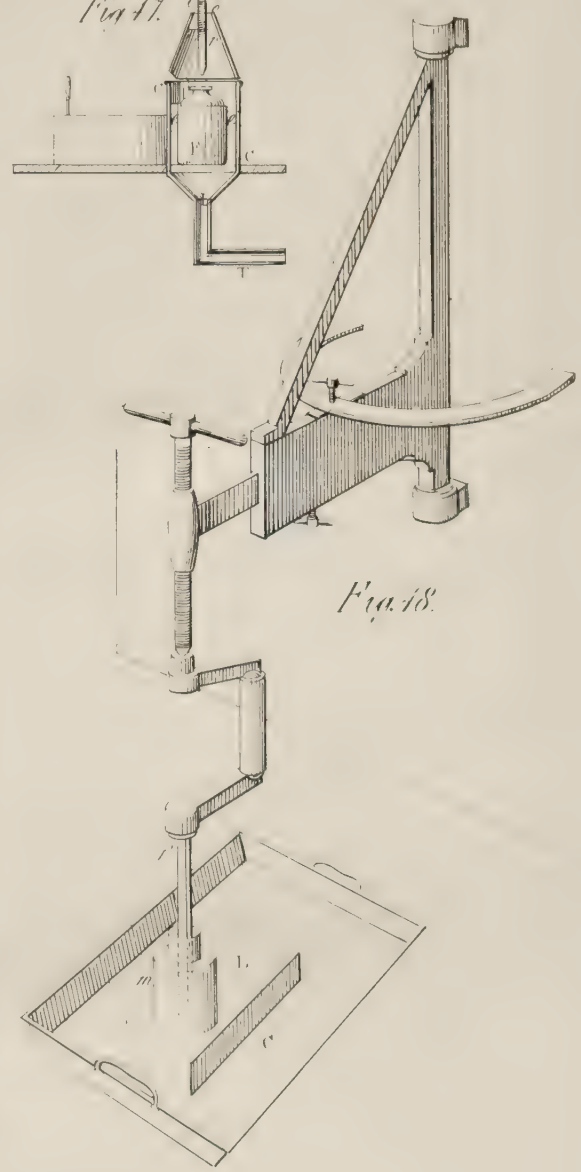



Fig 48.